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## ABSTRACT

This periodic compendium of environmental training opportunities includes information about educational opportunities for noncredit, and undergraduate through postgraduate studies around the world. The areas of study include the following: environmental education; environmental science; environmental management; Africa and global change; environmental health and toxicology; agroforestry extension; irrigation projects; international development policy; environmental law; environmental engineering; human ecology; forestry; mining and the environment; energy and the environment; environment and trade; environment and development; water management; conservation of endangered species; and agriculture and rural development. The material is divided into the following sections: (1) Asian and the Pacific (5 entries); (2) Africa (5 entries); (3) North America (7 entries); (4) Europe (24 entries). Addresses, dates, phone numbers, and sometimes fax numbers are provided along with a short description of each program, class offering or institution. (LZ)

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ED 377 078

# ET WORLDWIDE

## A periodic compendium of opportunities in environmental training

Number 11  
August 1994

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Environmental Education &  
Training Unit  
United Nations Environment Programme



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**Periodic  
compendium of  
opportunities in  
environmental  
training**

**ET** **WORLDWIDE**

Dear Reader,

You are holding the eleventh issue of ET Worldwide in your hands. ET Worldwide is a periodic compendium of environmental training opportunities around the world. You will find information on more than 150 training courses, short-term or long-term, in more than 20 countries. You will also find information on financial assistance for studies abroad. If you need further information on any of the courses, please write to the university or organizing institution directly. If information in this issue is already out of date by the time you read it, do not lose hope, many of these courses are repeated every year.

Please circulate this publication among your colleagues; it is important that this information becomes available to as many people as possible.

Finally, we would be grateful for any leaflet, brochure or advertisement on environmental training for future issues of ET Worldwide. Please send it to us; you will find our address on the back cover of this issue.

Thank you.

The Editors

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# THE UNIVERSITY OF ADELAIDE

P.O. Box 498  
Adelaide, South Australia 5001  
Australia



UNEP  
P.O. Box 30552  
Nairobi  
Kenya

## UNEP/UNIVERSITY OF ADELAIDE INTENSIVE, INTERNATIONAL POST-GRADUATE TRAINING COURSE IN ENVIRONMENTAL MANAGEMENT

**Structure of the course:** The course is divided into 3 components:

- I. The CORE-CURRICULUM made up of Introductory Studies and other major themes in Environmental Management
- II. SPECIALIZED STUDIES in two of several electives
- III. SPECIAL PROJECT

This design involves course work in environmental management issues and tools, specialized studies and the development and execution of a team research project. The integration of all these components should provide a solid environmental leadership training, enabling participants to:

- apply the knowledge and skills gained improving the practice of environmental management in their home country and
- offer similar instructions to others upon their return home.

**Duration:** 5 months

**Dates of the Next Course:** Monday 13 February 1995 to Sunday 9 July 1995

**Travel Dates for Participants:** **Outbound:** Leaving country of residence so as to reach Adelaide, Australia by 10 or 11 February 1994  
**Return:** Leaving Adelaide on Sunday 9 July 1995.

**Financial Support:**

- Economy/excursion return air ticket from a major airport in country of residence to Adelaide
- A monthly stipend (but not per diem at UN rates) sufficient to cover basic living expenses (food and lodging) while in residence.
- Registration and tuition fees for the course are paid for.
- Health insurance will be provided (i.e. the fellows will be covered) for the duration of the course, i.e. while he or she is in Australia.

Only candidates officially nominated by their Governments, upon invitation from UNEP to submit nominations, are considered for this course.

## Compulsory core-subject: Principles of Sustainable Environmental Management

### (1) Identifying the nature and causes of environmental degradation

This introductory section analyses the origins and ramifications of local, regional and global environmental problems in both developing and industrialised countries. Topics discussed include:

- Deforestation and global carbon storage.
- Land degradation and accelerated soil erosion.
- Desertification, drought and famine.
- Irrigation and salinisation.
- Soil, water and air pollution.
- Health hazards and disease.
- Transboundary movement of toxic chemicals and hazardous waste.
- Climate change and possible sea-level rise.
- Ozone depletion.
- Biodiversity loss.

### (2) Towards long-term cure and future prevention of environmental degradation, and the achievement of sustainable environmental management

The focus here is on the analysis and formulation of the principles which should form the basis of the integrated and sustainable management of our natural resources. Topics and concepts discussed include:

- Biogeochemical cycles and ecological equilibrium.
- Ecologically sustainable development - is it possible?
- Restoration ecology - theory and practice.
- Rangeland management and sustainable agriculture.
- Soil and water conservation and landcare plans.
- Community role in deciding and implementing conservation measures.
- Resolution of land use conflicts.
- Water quality and integrated catchment management.
- Forest management and agro-forestry.
- Energy conservation and renewable energy sources.
- Waste management and recycling strategies.
- Urban planning and the design of eco-cities.
- Environmental health.

### (3) Monitoring the environment

This third and final section stresses the need for high quality observational data about the state of the environment, and describes some of the tools now available for environmental monitoring. We emphasise that good data are essential for defining the areal extent and severity of particular environmental problems, for formulating appropriate management plans, and for testing the success or failure of such plans.

- Environmental indicators.
- Choice of the most appropriate tools to use.
- The need for reliable and representative observations.
- Environmental auditing - social and economic factors.
- The June 1992 "Rio Declaration" and "Agenda 21".
- The Biodiversity and "Climate Change" Conventions.
- Environmental information systems.
- The role of remote sensing and geographic information systems.
- Environment Protection Agencies.
- The role of international agencies involved in environment and development projects (UNEP, UNDP, UNESCO, World Bank, Global Environment Facility).



School of Public Health  
Curtin University of Technology

## GRADUATE CERTIFICATE

### ENVIRONMENTAL HEALTH MANAGEMENT

1994

#### INTRODUCTION

The Graduate Certificate in Environmental Health Management is a multi-disciplinary course designed to provide specialised advanced training for graduates with a responsibility for environmental health management.

#### OBJECTIVES

The general objectives of the course are to provide a program which incorporates environmental health orientation, and goals into the management process and supplies the necessary skills to achieve these goals within an overall framework of sustained economic growth.

The course will develop graduates who can:

- Manage the identification, evaluation and control of environmental health concerns
- Understand the economic and financial consideration related to environmental issues
- Appreciate the interdisciplinary nature of environmental health issues
- Understand current issues in Environmental Health

#### ENTRANCE REQUIREMENTS

Students must possess a Bachelor's degree in an appropriate field or hold an equivalent qualification from a recognised tertiary institution.

#### DURATION and AVAILABILITY

The course is conducted over one semester full time, or equivalent part time, on a distance education basis.

#### ENQUIRIES TO:-

Prof. J. Spickett  
Course Coordinator  
School of Public Health  
Curtin University of Technology

Kent Street  
BENTLEY WA 6102

**Australia**

Tel: (09) 351 7294

Fax: (09) 351 2958



**GRADUATE CERTIFICATE  
IN  
ENVIRONMENTAL TOXICOLOGY**

**BACKGROUND**

With improvements in research and technology there is a world-wide increase in the awareness of the adverse effects of chemicals in the environment, both to ecosystems and to public health. Concurrently there is heightened public awareness and concern that exposure to this chemical build-up in the environment is increasing, through everyday practices of development, such as in agriculture and industry.

Environmental Toxicology deals with the incidental exposure of biological tissue to environmental contaminants and studies the causes, conditions, effects and limits of safety of such exposures.

Public perception over specific incidents involving hazardous substances is often the result of a lack of education and understanding of toxicology in general and environmental toxicology in particular.

Many of the problems of pollution have been and are being addressed by politicians, environmentalists, legislative bodies etc. It is therefore no longer "a question of whether the environment will be managed, but rather how and by whom".

The role of the environmental toxicologist is to evaluate and assess toxicological information in the perspective of environmental growth and developmental issues to ensure balance is achieved between a health environment and technological growth. Additionally to act a mediator between chemical users such as the agricultural sector, industry, and the public, and to educate the public on the subject of risk and risk assessment.

**OBJECTIVES**

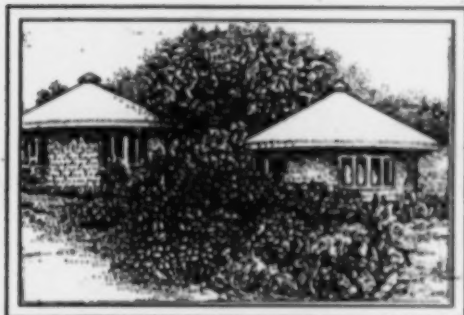
General objectives are to provide specialist training for individuals who have to deal with the problems created by deteriorating environment, and would enable diagnosis of environmental problems and prescribe feasible solutions to achieve management of environmental toxicology within the context of sustainable economic development.

Specific objectives include:

- Provide the necessary skills and techniques required for the multidisciplinary approach to environmental toxicology and the identification, evaluation and control necessary for managing environmental problems and associated adverse health effects.
- Develop an appreciation of the socio-economic issues and financial considerations in decision making integrated with an environmental toxicological perspective.
- Provide graduates with the necessary analytical and quantitative skills necessary for environmental management of toxicology.
- To provide specialist training in current issues of Environmental Toxicology.



# Training in Environment Education



## Centre for Environment Education

### Objectives of TEE

1. To generate a knowledge base to help understand environment in a larger perspective.
2. To highlight the need for environment education.
3. Familiarization with various approaches to environment education.
4. Developing skills to use various communication techniques for environment education.

### Training Programme In Environment Education TEE-94

|                       |                                                                                                                                                                                                                                                                         |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Organised by</b>   | : Centre for Environment Education, Ahmedabad, India                                                                                                                                                                                                                    |
| <b>Duration</b>       | : Eight months residential, Certificate course; November 1994 - July, 1995                                                                                                                                                                                              |
| <b>Course Content</b> | : Science of environment and issues of Environment and Development ; Communicating environment;                                                                                                                                                                         |
| <b>Methodologies</b>  | : Lectures, lecderns, trainee presentations, seminars, workshops; study tours, camping, simulations, self-learning; project work                                                                                                                                        |
| <b>Seats</b>          | : 5 seats for NGOs from Commonwealth developing countries (except India) sponsored by Commonwealth Secretariat, London. Countries/NGOs out side the Commonwealth can sponsor their candidates (per participant cost Indian Rupees 1,25,000/- exclusive of travel costs) |

CEE also plans to conduct short term training modules in EE (4-6 weeks). Those interested are encouraged to write to us.

For further enquiries and TEE 94 application forms, please write to the following address. Last date for receiving completed TEE 94 application forms is July 30, 1994.

Programme Coordinator, TEE  
Centre for Environment Education  
Thaltej Tekra  
Ahmedabad 380 054  
India

Phone : 409751, 442642, 442651  
Gram : PARYAVARAN  
Telex : 121-6779 CEE IN  
FAX : 91-272-420242



**E**nvironment has become an area of concern for all of us. Public perceptions about environmental problems have changed in the recent past with an emphasis on sustainability. Some of us have initiated actions aimed at conserving our natural resources or taking corrective measures to ensure better quality of life. These actions are reflected in the plans and programmes of government and nongovernment organizations. Training programme in Environment Education (TEE), conducted by the Centre for Environment Education (CEE) is a step in this direction.

The critical role played by environment education in promoting sustainable development practices is widely recognized. TEE offers opportunities to understand environment in the right perspective and to use the understanding to create awareness among people by using various communication media.

## **T** raining programme in Environment Education

Training in the various aspects of environment education is an ongoing activity of the Centre. TEE focuses on two broad areas: understanding environment, which includes basic scientific concepts and issues of environment, and the use of communication techniques in spreading the message of environment. Some of the topics covered under these broad areas are : ecology, man-environment relationships, natural resources, energy, forest and wildlife, pollution, urban issues, development processes and ecodevelopment as an approach, environmental policy and regulations, major environmental issues, role of communication in environmental action, use of various media, interpretive programmes, etc. Interaction with experts in the field, hands on experience in developing communication materials like booklets, posters, audio visuals, project work, visits to nature camp sites and study tours are some of the highlights of TEE .

Through these long-term training programmes and other proposed training modules of shorter duration, CEE hopes to create a countrywide cadre of individuals, especially associated with non-government organizations, who can contribute effectively towards meeting local and regional needs for environment education.



**INTERNATIONAL TRAINING COURSES IN  
POLLUTION CONTROL AND MANAGEMENT  
AND ENVIRONMENTAL TOXICOLOGY**

**November 7 - December 2, 1994**

**Bangkok, Thailand**

Organized by

**CHULABHORN RESEARCH INSTITUTE  
INTERNATIONAL CENTER FOR ENVIRONMENTAL AND  
INDUSTRIAL TOXICOLOGY  
(UNEP Center of Excellence)**

and

**ASIAN INSTITUTE OF TECHNOLOGY**

Prevention of chemical hazards and safeguarding human health and the environment from the adverse effects of chemicals requires personnel with a thorough knowledge of both toxicology and appropriate technology together with management skills applicable to government, industrial and academic sectors. At present, in the developing world, there is a serious lack of qualified and trained personnel in these critically important and increasingly essential areas.

The International Center for Environmental and Industrial Toxicology (ICEIT) of the Chulabhorn Research Institute, in response to this perceived need, has given the highest priority to organizing the forthcoming training program to assist developing countries in human resource development to cope with the increasing use of chemicals worldwide.

The training program which consists of two intensive training courses :

- Pollution Control and Management
- Environmental Toxicology

will be organized by ICEIT in collaboration with the Asian Institute of Technology (AIT) with the assistance of experts from leading universities/institutes in North America, Europe and international organizations so that the current knowledge and technology developed in the industrialized world will be transferred and applied to the local situation.

This program addresses the training needs of both engineers and health scientists in the vitally important area of chemical toxicity in relation to safety evaluation and assessment, management and planning, and policy formulation. Thus, the program aims to integrate the fundamental principles of toxicology and engineering practices to foster a multidisciplinary approach for the safe use of

The Secretariat:  
*International Training Courses in Pollution Control and Management  
and Environmental Toxicology*

Chulabhorn Research Institute, Office of Scientific Affairs

c/o Faculty of Science,  
Mahidol University,

Rama 6 Road,  
Bangkok 10400,  
THAILAND

Tel: 66-2-247-1900,

Fax: 66-2-247-1222

## COURSE STRUCTURE

The course will be given in English and will consist of lectures, small group discussion, and case studies which include presentations of specific environmental problems to be resolved by trainees working in small groups. There will also be field visits. The use of data bases such as the International Register of Potentially Toxic Chemicals (IRPTC) data base will be demonstrated.

## PARTICIPANTS

The training program is designed for mid-level professionals with background in science or engineering, working in industry or in agencies concerned with the use, control and toxicity of chemicals.

Background knowledge in one of the following disciplines is recommended: chemistry, biochemistry, biology, environmental sciences, engineering and medicine. Participants with backgrounds in sciences or engineering are encouraged to take the complete program (2 courses) which cuts across the two major disciplines of environmental engineering and health science.

## REGISTRATION

Registration is limited; to assure a place, we urge you to register as soon as possible and no later than September 1, 1994.

### Course I: POLLUTION CONTROL AND MANAGEMENT (Duration 2 weeks: November 7 - 18, 1994)

Course Coordinators: C. Polprasert, L. Reutergardh, T.B. Suselo, and C. Visvanathan

#### Course Content:

##### Session 1: Monitoring Industrial Pollution and Analytical Techniques

- Basic Concepts of Ecosystems Analysis
- An Overview on Organic Contaminants, Focussing on Monitoring of a few Chlorinated Organic Pollutants, through Immission Studies
- Ecotoxicology: Application to Pollution Control and Assessment
- Analysis of Some Micro Pollutants
- Wastewater Characteristics

##### Session 2: Industrial Pollution and Control

- Industrial Processes and Wastes Characterization
- Strategies in In-plant Waste Minimization and Clean-up Technology
- Liquid Effluent Treatment and Industrial Effluent Standards
- Chemical Climate and Atmospheric Trace Gases
- Hazardous Waste Generation and Processing
- Biological Mine Water Treatment
- Hazardous Waste Disposal
- Clean-up of Hazardous Waste Contaminated Sites
- Monitoring of Biological Effects

##### Session 3: Non-Industrial Pollution

- Some Strategies for Monitoring of Persistent Micro Pollutants Based on Twenty Years of Monitoring
- Indoor Air Pollution
- Dust and Atmospheric Aerosol

##### Session 4: Impact Assessment Procedure

- Environmental Impact Assessment
- Case Study: Impact of Bleached Pulp Mill Effluents on the Aquatic Environment
- Information Technology (IT) and Development

##### Session 5: Preventive Strategy and Technology

- Policy and Trends in Environmental Education and Management
- Cleaner Processes and Recycling Options
- Acid Rain: Prevention and Control
- Municipal Solid Waste Utilization
- Controlled Release of Biologically Active Agents for Purposes of Agriculture: Crop Management



### Course II: ENVIRONMENTAL TOXICOLOGY (Duration 2 weeks: November 21 - December 2, 1994)

Course Coordinators: M. Ruchirawat  
R.C. Shank

#### Course Content:

##### Session 1: Chemicals in the Environment

- Chemicals in the Environment
- Dioxin Case Study
- Exposure to Chemical Hazards
- Fate and Distribution of Chemicals in the Environment (I)
- Fate and Discussion of Chemicals in the Environment (II)

##### Session 2: Principles of Toxicology

- Threshold and Dose Response Relationships
- Absorption, Distribution and Excretion
- Metabolism
- Factors Affecting Toxicity
- Methods of Assessment of Toxic Chemicals
- Cellular Responses to Toxic Injury

##### Session 3: Chemical Carcinogenesis and Occupational Cancer

- Cancer, A Definition
- Mechanisms of Carcinogenesis: DNA Damage
- Non-Genotoxic Mechanisms of Carcinogenesis
- Environmental Carcinogenesis: Case History-Aflatoxin B<sub>1</sub>

##### Session 4: Target Organ Toxicology: Responses to Environmental Toxicants

- Liver Toxicity
- Nervous System Toxicity
- Pulmonary Toxicity
- Renal Toxicity
- Skin Toxicity

##### Session 5: Industrial Chemicals Posing a Threat to Health and Environment

- The Toxicity of Industrial Chemicals
- Toxicological Bases for Regulating Chemical Exposure in the Workplace
- Industrial Chemical Toxicity: A Case Study of Cadmium

##### Session 6: Pesticides and Agrochemicals

- Pesticides: Classification, Registration & Code of Conduct, Safety and Exposure of Pesticides
- Mechanisms of Pesticides Toxicology
- Safe and Efficient Use of Pesticides
- Treatment of Pesticide Poisoning

##### Session 7: Risk Assessment and Management of Chemicals

- Environmental Epidemiology
- Risk Assessment: The Process
- Risk Estimation of Exposure to Carcinogens
- Factors Affecting the Risk Assessment Process
- Risk Assessment for Incinerator: Case Study
- Risk Management
- Risk Communication
- Regulatory Toxicology (Air and Water)

**The National University of Hanoi**

**Department of  
ENVIRONMENTAL SCIENCES**

**LOCATION**

The Department is located at Hanoi  
University, Thuong Dinh Campus

Add: 90 Nguyen Trai Road, Hanoi.

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Fax : 84 - 45 - 83061

Head of Dept. Prof. Dr. Mai Dinh Yen

Secretary : M. Sc. Le Huy Hoang



## HISTORY

As a result of growing public concern especially among students and intellectuals over Vietnam's deteriorating environmental condition, the Ministry of Education and Training has decided to establish in Hanoi University the Department of Environmental sciences (Env. Sc.). The Environmental sciences and Technologies nowadays are not only the basic knowledges for everybody, but also are the qualified professions for many scientists and staffmembers both for Governmental/Private organizations. The Department of Env. Sc. is the first department in University Education on Environmental Sciences of Vietnam.

## OBJECTIVES

1. To perform teaching-learning role in producing qualified in the fields of Env. Studies, Natural Resources development and Management.
2. To pursue relevant research works.
3. To provide technical assistance services.
4. To perform other appropriate related functions as needed in the interests of National development.

## ACTIVITIES

### 1. Education and Training.

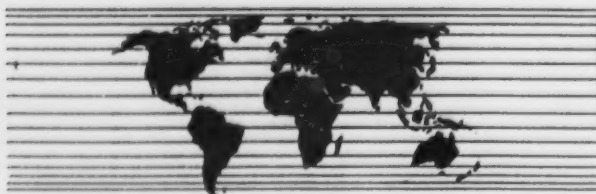
The Dept. offers two years full time Master of Science on Env. studies and Natural Resources Management. Following are the core courses :

- Principles of Env. Sciences
- Basic Env. Technology
- Env. Chemistry
- Env. and Ecosystems Management
- Env. Impact Assessment (E.I.A.)
- Env. Economics
- Env. Laws and Policies of Env. Management
- Mathematical Modelling and computer applying in Env. Sc.
- Natural Resources and Env. Management in Vietnam

### 2. Research.

In cooperation with the other Faculties and Centres of Hanoi University, the Dept. carries out research into different fields. Current areas of Research include:

- Biodiversity
- Environmental Monitoring
- Natural Resources conservation and Management
- Env. Impact Assessment (E.I.A.)
- Waste water treatments
- Environmental planning
- Environmental Education





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**MOI UNIVERSITY**

P.O. Box 3900  
Eldoret,  
KENYA.

### **COURSES IN ENVIRONMENTAL MANAGEMENT IN INDUSTRY**

MOI University School of Environmental Studies runs - two year (4 semester) Master of Philosophy programme in Environmental Studies. The programme is divided into eight divisions viz. Biological Sciences, Environmental Economics, Environmental Health, Environmental Law, Environmental Monitoring and Cartography, Environmental Planning, Human Ecology and Physical Sciences. Students admitted into the programme must specialise in one of the divisions after taking broad-based courses in their first semester. A thesis is required by the end of the fourth semester. A number of taught courses are offered that are relevant to Environmental Management in Industry.

---

**SES 824E - Economics, Technology and the Environment (2.0 Units)**

The role of economics in technology change, development and environmental impact. Economic and social cost of technology assessment and development; intermediate technology; appropriate technology; labour versus capital intensive technology in industrial and agricultural inputs and outputs; the role of indigenous technology in resource conservation (e.g. traditional agricultural implements, terracing, channel irrigation systems).

**SES 830 - Practical Environmental Chemistry (Required Course 3.0 Units)**

Sampling methods for water, air and soil pollutants. Chemical methods of analysis for pesticide and fertilizer residues. Analysis of plant and animal tissues for pollutants. Biochemical analysis: principles of bioassays. Food quality. Drugs and cosmetics.

**SES 831 - Practice in Environmental Chemistry (Required Course 3.0 Units)**

Case studies on environmental chemistry. Focus on issues in the immediate environment, national issues and regional issues.

**SES 832 - Health and Chemical Safety (Required Course 2.0 Units)**

Toxic chemicals; hazards assessment of chemicals; occupational profiles; chemical accidents and response systems; Case studies: e.g., Seveso, Mississauga, Bhopal, Minamata, Chernobyl.

**SES 833E - Management of Hazardous Waste (2.0 Units)**

General principles; definition of hazardous waste; problems of hazardous waste; administrative and legal aspects; planning of disposal facilities; collection, transportation and storage; management, treatment and disposal; transfrontier transport; enforcement of waste management regulations.

**SES 834E - Environmental Health Criteria (2.0 Units)**

Principles and methods of evaluating the toxicity of chemicals; studies in environmental epidemiology; evaluation of health risks to progeny associated with exposure to chemicals; aquatic (marine and freshwater) biotoxins; genetic effects in human populations; tests for carcinogenic and mutagenic chemicals.

*SES 833 - Toxicology and Physiology (Required Course 2.0 Units)*

Physiological classification of harmful substances: carcinogenic, mutagenic, neurological etc. Exposure pathways of harmful substances; external radiation, skin-lung gastrointestinal absorption. Transport and accumulation in the body organs. Physiological effects, retention time. Dose-response relations. Effects on populations.

*SES 842 - Environmental Impact Assessment (Required Course 2.0 Units)*

Concept, origins and function of Environmental Impact assessment/statement; comparative appraisal of provisions constituting 'statement' as well as the appraisal, including who should prepare the statement, and provisions for oversight; and public participation in the process; applicability and implications. Steps in EIA: primary impacts evaluation, mitigation, measures, assessment, comparison of externalities, documentation and decision-making. Examination as an economic asset. Ecological impact assessment.

*SES 845E - Law and the Working Environment (2.0 Units)*

The dimension of the problem of occupational health and hazards, in terms of occupational injuries, diseases and disabilities; Kenyan statutes on the production of chemicals, specifically the Factories Act, the scope of protection and remedial measures; international standards adopted through the WHO and ILO; comparison with selected country standards; and suggestion for improving legislation and enforcement.

*SES 849B - Environmental Litigation (2.0 Units)*

Environmental litigation as such is still a new field in Kenya and in Africa, even though there have been a number of actions in tort or under statutes, but it can grow and be viable with increasing training and public awareness. This course could, where possible, be conducted as a clinic to prepare lawyers in handling cases in these technical fields. Sessions should cover requirements for preparations of environmental cases; techniques for relating scientific facts to law; client counselling as well as drafting of the submissions on appeals. On selected basis the participants may prepare and submit *amicus curae* briefs on selected significant cases before national courts.

*SES 849G - Law and the Management of Poisons and Chemical Wastes (2.0 Units)*

Evolution of the problem of industrial and municipal wastes which necessitated the conclusion of the regional Oslo and global London Conventions in 1972, to deal with the problem of dumping. Waste dumping on land in Africa. Available legal machinery and national and international levels for the control of disposal incineration of chemicals wastes; protection of environment from the discharge of poisonous substances, especially for the surface and ground waters and living organisms.

*SES 884E - Waste Disposal (2.0 Units)*

Types of wastes. Recycling. Hydrological implications of solid waste disposal. Chemical and liquid wastes. Interaction with soils and rocks. Hydrological implications. Radio-active wastes. Gaseous wastes. Municipal, industrial and domestic waste disposal practices. Interaction between wastes and natural materials.

*SEE 882 - Industrial Processes and Pollution (2.0 Units)*

Types of industries and their pollution. The industrial processes and at which steps the environmental pollution is generated. Alternative processes and strategies for internal treatment of prospective pollutants. Organic pollutants: Sewage treatment plants. Breweries, Dairies, Food processing, Paper-pulp, Tanneries. Organic poisons: Chemical industries, (paints and dyes, fertilizers, textile, etc.). Incineration-Combustion plants. Metallic poisons: Galvanising industries, Mining, Metallurgic.

13

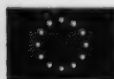


# AFRICA AND GLOBAL CHANGE

International School - Nairobi (Kenya), 13-25 February, 1995



From space based  
observation to modelling:  
a contribution to  
sustainable development.



The French Space Agency, CNES, has organised an International School in Space Physics every other year since 1966, intended to enable young researchers of all countries to enhance their understanding of a theoretical aspect of space physics. Since 1993, within its participation in the MEDIAS Network, CNES also sponsors an International School on a topic related to global environmental change, in collaboration with a hosting country.

The first School of this type was held in Niamey (Niger) in December 1993. The second International School will deal with «Africa and global change: from space-based observation to modelling - A contribution to sustainable development», and will take place in Nairobi, Kenya, between February 13 and 25, 1995, upon the invitation of the government of the Republic of Kenya through the Kenya Meteorological Department (KMD), and with the sponsorship of many French, Kenyan and international institutions.

Through such initiatives the MEDIAS Network offers a cooperative framework to research and training institutions interested in the study of issues of global environment change in the Mediterranean Basin and Subtropical Africa.

## REGISTRATION

The number of participants is strictly limited to 35. The registration to the School is free of charge.

Participants are expected to attend the full programme (lectures, practicals and conferences).

Registration forms should be sent by September 10, 1994, to the following address (preferably by fax to avoid any mail delay).

MEDIAS-FRANCE

CNES - B.P. 2102

18, Avenue Édouard-Belin

31055 TOULOUSE Cedex - France

Tel. (33) 61 28 26 67 - Fax (33) 61 28 29 05

## MOTIVATION AND OBJECTIVES

The Nairobi International School is taking place as part of the MEDIAS Network programme. MEDIAS is aimed at coordinating the development of research activities, observation, modelling, training and data management projects in the Mediterranean Basin and Subtropical Africa regions. Several French institutions established in 1993 a non-profit making, public corporation called MEDIAS-FRANCE, with a view to contribute to the MEDIAS Network activities. The School is also part of the ACMAD (African Centre for Meteorological Applications to Development) programme, which enables the African Meteorological services to contribute to reducing the loss of life and property from the damaging effects of weather-related hazards, and to acquire the scientific knowledge needed to understand the climatic trends having impact on the environment and economy of African countries.

Initiated in 1992, MEDIAS represents a link in the global Network being developed by the START initiative of IGBP, WCRP and HDP. START focuses on the regional origins and consequences of global environmental changes and stresses on establishing regional research networks in developing countries. In addition START is an effort devoted to capacity building in the various nations participating in a regional network. The main missions of ACMAD, established in 1987 in Niamey by Member States of the United Nations Economic Commission for Africa (UNECA), are to ensure a meteorological and climatological watch over Africa, to promote new methods for the application of meteorology to socio-economic activities for a sustainable development in Africa, and to become a centre of excellence to consolidate research and training capacities in meteorology and climatology in Africa.

The International School of Nairobi is intended to provide to a selected group of participants: a comprehensive view of the aims and objectives of the major international research programmes devoted to global environmental change (IGBP, WCRP, HDP), with particular emphasis on the most critical issues of relevance to Africa; an update on the most recent advances and results, in particular with respect to satellite observation, numerical modelling, data management, GIS, etc.; and, an opportunity for post-graduate training and for exchange of experience and knowledge with other colleagues from the African continent, with a view to stimulate further collaboration and design of new projects. About thirty-five African participants (University teachers, researchers, engineers) of graduate/post-graduate level in all disciplines of natural and social sciences will be offered an opportunity to attend during two weeks a series of lectures, conferences and practicals on the issues of global change, and especially its causes and consequences in Africa.



## TENTATIVE PROGRAMME

Teaching will include lectures, conferences and computer-based application exercises. Lectures and conferences will take place at the Kenya Commercial Bank Training Institute facilities near Nairobi. Practicals will be organised in the facilities of participating institutions, e.g., KMD/DMC (Drought Monitoring Centre), DRSRS, RCSSMRS, ILRAD and ICRAF. The working languages are English and French. No provision being made for interpretation, candidates should have a good knowledge in both languages. However every effort will be made to facilitate understanding through the use of view graphs and printed material in both languages, distribution of abstracts and lists of keywords, coupling of participants, etc. Candidates should also be familiar with microcomputers.

Teaching will be provided by an international group of distinguished researchers and professors.

## LECTURES

**Dynamics of atmosphere and ocean:** atmospheric general circulation, energy budget of the tropical system; ocean circulation, ocean-atmosphere interactions

**The water cycle:** surface-atmosphere hydrological exchanges; atmospheric water cycle in the tropics

**The carbon and trace gas cycles:** sources and cycle of minor atmospheric constituents; carbon cycle in the ocean and terrestrial ecosystems

**Interactions between terrestrial ecosystems and climate:** characteristics and evolution of African terrestrial ecosystems; land cover changes

**Coastal zones:** coastal processes in Africa

**Climate variability:** past climate changes at geological time scales; at instrumental time scales; global modelling

**Human dimensions:** social and economical impacts of global environmental change in Africa; issues of sustainable development



## CONFERENCES

- **Climate impacts in Africa** - J. Kinuthia (KMD, Nairobi)
- **Africa and global change** (public event) - S.I. Rasool (JPL, Pasadena)
- **International programmes for global change** - H. Virji (START)
- **European Commission programmes/activities for global change** - A. Ghazi (ENRICH)
- **The activities of ACMAD** - M.S. Boulahya (ACMAD)
- **Can we extrapolate environmental change from local to regional scale in Africa?** - R.S. Reid (ILRAD)
- **Training activities in Africa** - E.A. Mukohwe (KMD)
- **Drought Monitoring in Africa** - R.S. Masika (DMC)
- **Sources and impacts of aerosols** - A. Podaire (MEDIAS-FRANCE)
- **Biomass burning** - J.P. Lacaux (Lab. d'Aérodynamique, Toulouse) or P. Frost (Univ. of Zimbabwe)

## PRACTICALS

Six to eight sessions of practicals by shifting groups of 8 participants will be organised. They will comprise field trips and measurements, demonstration and application exercise on micro-computers (such as PC 386) or workstations.

Typical topics for practicals could include rainfall estimates, surface energy budget, land cover change evaluation, sea surface temperature mapping, estimation of marine primary production, study of monsoon, using data samples from satellite imagery, ground-based measurements, etc.

## SCHOLARSHIPS

Partial or full financial support could be given to African applicants to cover the travel and subsistence expenses. Candidates to a fellowship must justify their request.





African Biodiversity Institute

ABI Regional Office,  
A.A.C.C. Building, Waiyaki Way,  
P.O. Box 14126, Nairobi, Kenya  
Tel: 254 - 2 - 448028  
Fax: 254 - 2 - 580496

### OPPORTUNITIES IN ENVIRONMENTAL TRAINING AT AFRICAN BIODIVERSITY INSTITUTE (ABI)

ABI is an international institute which was established in 1986 for monitoring and managing environmental and health hazards in development. The primary objective of the institute is to promote efforts to conserve biological diversity and enhancing human livelihood in African countries through improved conservation and sustainable use of biological resources.

Recognizing the deficiency in trained manpower in environmental impact assessment (EIA) and biodiversity use and conservation in Africa, ABI in collaboration with African and overseas universities, in 1992 established the Inter-University Programme for Environmental Risk Assessment (IPERA). This programme is a specialist training arm of ABI with the objective of training young African scientists at Masters and PhD levels and through short-term training programme in these fields.

#### 1.0 MASTERS AND PHD TRAINING PROGRAMME

**How it is run:** The programme is run jointly by ABI and a consortium of over 14 African and overseas universities. ABI does not award degrees. The degrees are awarded by the participating universities but recognize ABI as an academic institution. Students undertake a four months intensive compulsory orientation course at ABI before proceeding to research work. The orientation course is also open to non-IPERA students. Research topics for the students are carefully scrutinized and selected by ABI scientists to suit the objectives of the institute.

#### Orientation Course Outline

The course work covers general environmental subjects including: environmental and natural resource protection and biodiversity, with emphasis on EIA in agricultural practices, pesticide management, environmental health and toxicology; biostatistics and research methodologies, computer studies.

The course work involves lectures, seminars, laboratory and field practicals and case studies.

#### Requirements for admission

**Masters Programme:** Any holder of a first class or upper second degree in Biology, Sociology, Botany, Zoology, Entomology, Biochemistry, Agriculture, Forestry, Environmental Sciences or Physical Sciences from a recognized university.

**PhD Programme:** Is open to candidates who hold Masters Degree under IPERA and/or holders of Masters in environment or basic sciences from recognized institutions.

Candidates for both programs must have good working knowledge of English and be under 35 years old.

#### Venue

Currently, the Masters and Phd courses are conducted at ABI's regional headquarters in Nairobi, Kenya.

#### Funding

Participating universities and other institutions will provide scholarships to their candidates who are accepted for admission to the programme or will cooperate with ABI in finding scholarships for them.





## 2.0 SHORT-TERM TRAINING COURSES

ABI organizes annually one-month intensive development oriented training in the following fields:-

- 2.1. EIA and biodiversity
  - 2.2. Safe pesticide use
  - 2.3. Combined Malaria and Schistosomiasis management
  - 2.4. Gender and Participatory Rural Appraisal (PRA)
- The number of participants in each course is limited to fifteen.

### 2.1 THIRD TRAINING COURSE IN EIA AND BIODIVERSITY

Duration: 18th July to 13th August 1994

**Objective:** The main purpose of EIA is to promote incorporation of environmental considerations early into development as a planning tool for environmental protection and enhancement on a project by project basis. It ensures that biodiversity forms an integral part of the EIA process. The course aims to provide "hands on" training to those who wish to acquire over a short time all the basics and principles of EIA and management, methodology; and to link EIA in decision making and environmental management and hence sustainable development.

#### Course Participants

The course is planned to assist all those involved in the development process and its useful for those who will be required to undertake EIA or make decisions based on EIA statements; those currently involved in planning and developing their national environmental action plans; environmental scientists, socioeconomists, engineers who need to understand systematic procedures in EIA. Previous experience in EIA is not necessary but a minimum of BSc./BA or MSc./MA equivalent is necessary. Proficiency in English is a must.

#### Course Outline

- introduction to biodiversity and development concepts
- introduction to EIA concepts
- general EIA methods and techniques
- project and environmental descriptions
- significance, prediction and mitigation of impacts
- EIA reporting and decision-making
- monitoring and post auditing
- EIA case studies

### 2.2 SECOND TRAINING COURSE IN SAFE PESTICIDE USE

Duration: 6th February to 4th March 1995

**Objective:** To develop a greater awareness and understanding of the ecologically safe and effective use of pesticides.

#### Course Participants

The course is intended for:-

Persons involved in giving advice to the farmers who apply pesticides in agriculture and public health. The course is particularly useful to improve the quality of advice given the end users of pesticides. The target group includes crop protection officers, vector control officers, leaders of farmer organizations

#### Course Outline

- general concepts of pesticide management
- prevention, diagnosis, and treatment of pesticide poisoning pesticide formulation, use, transport, registration, labelling and laboratory analysis
- environmental considerations in pesticide use in agriculture and public health
- general considerations in extension services

**Visas:** All the short courses are conducted at ABI's School of Environmental Field Studies (SEFS) situated at the outskirts of Uganda's industrial city of Kampala.

**Fees:** The cost which is subject to revision from time to time for all the short courses is currently US\$1,500 per participant to cover international airfare, lodging and meals, field trips and excursions, a full set of course notes and other study materials and material within time. Travel, food and accommodation costs will be borne by the participant. Full payment should be made with a bank draft or international money order.

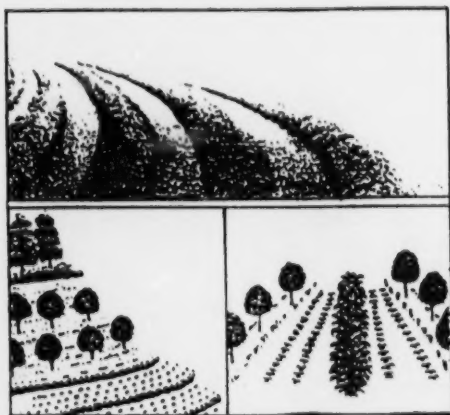
**Course Methods:** All the short courses comprise 40% lectures and 60% practicals. The lectures will also be attended by IPESA Masters and PhD students.

#### Application Procedure

Application letters should include a recent CV, copies of certificates, three recent passport size photographs, and should be submitted to the Director-General, (ABI) at least two months before the date of commencement of course.



**INTERNATIONAL  
TRAINING COURSES  
ON  
AGROFORESTRY  
EXTENSION FOR  
DEVELOPMENT**



**AED4 - 4TH JULY - 5th AUGUST 1994**

**&**

**AED5 - 31st OCTOBER - 2nd DECEMBER 1994**

Application should be made to:-

The Managing Director  
Technical & Study Tours Ltd.  
P.O. Box 50982  
NAIROBI - KENYA  
Tel: (254-2) 222192/244773  
Fax: (254-2) 780461/244775  
Telex: 22047

## INTRODUCTION

Agroforestry has today become a popular rural development approach especially among agricultural planners, extension officers and environmentalists. Agroforestry is a collective name for land use systems and practices in which woody perennials are deliberately integrated with crops and/or animals on the same land management unit. The integration can be either in spatial mixture or temporal sequence. There are normally both ecological and economic interactions between the woody and non-woody components in agroforestry.

In recent years, there has been a growing need for training in methods and approaches to agroforestry extension. In response to this, two international training courses on "Agroforestry Extension for Development" will be conducted in Nairobi, Kenya in 1994.

**COURSE AED4** for in-service senior extension officers and coordinators, will be held from 4th July to 5th August, 1994

**COURSE AED5** for frontline extension agents, will be held on 31st October to 2nd December, 1994.

These training courses will be the 4th and 5th in the series which have been very successfully conducted to benefit over 40 participants from 10 countries over the last two years.

## COURSE OBJECTIVES:

Both training courses aim to provide extension workers with skills and in-depth knowledge of agroforestry principles, concepts, systems, technologies, extension methods and techniques. The courses will broaden the awareness of the participants in the technical, ecological, social and economic basis of agroforestry as well as its institutional relevance as a tool for rural development. Emphasis will be given to the integration of these issues in the planning and implementation of agroforestry extension programmes as well as methods of their monitoring and evaluation. The courses combine lectures, audio visual aids, participants presentations, group discussions, workshops and in the field practical experiences. Although the courses are similar in structure, they differ in the level of detail both in theoretical and practical sessions. Course AED4 will have 60% theory and 40% practical work, while course AED5 will have 40% theory and 60% practical work.

## THE COURSE CONTENT:-

The course will consist of three modules during in-residence training and a field study tour as follows:-

### MODULE 1

- Concepts and practice of agroforestry,
- Agroforestry systems and components
- Agroforestry technologies and component interactions
- Multi-purpose trees, tree germplasm
- Nursery techniques and management.
- Agroforestry tree planting, protection and management

### MODULE 2

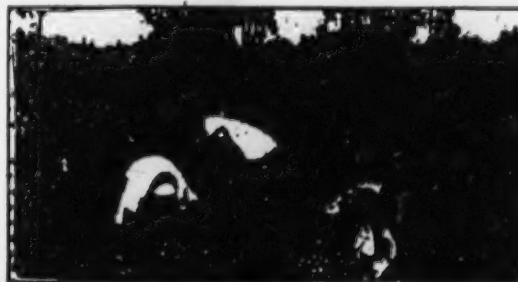
- Agroforestry extension communication
- Nature of agroforestry information
- Participatory Agroforestry Extension
- Diagnosing land use and farming system problems.
- Rapid rural appraisal and (D&D) Techniques
- Design of agroforestry extension programmes

### MODULE 3:

- Adult learning for Agroforestry
- Extension techniques and tools
- Monitoring and evaluation case studies
- Monitoring and evaluation of agroforestry extension programmes.

## STUDY TOUR

A 2 week study tour to a number of field agroforestry projects in Kenya to view agroforestry system. During the tour audio-visual training materials including slides and video tape recording will be prepared for participants.



## REQUIREMENTS FOR ADMISSION

Participants should meet the following requirements:

### FOR AED4 COURSE:

- i) a forestry, agriculture/livestock or social science training at degree level;
- ii) at least 2 years in-service experience as an agricultural, livestock or forestry extension officer in government or non-governmental organization;
- iii) competence in English language.

### FOR AED5 COURSE:

- i) a forestry, agriculture/livestock or social science training at diploma or certificate level;
- ii) at least 1 year in-service experience as an agricultural, livestock or forestry front line extension agent;
- iii) competence in English language.

### FEEES:

Total tuition fees amount to US\$6,000 per participant. This amount covers administrative costs, cost of training material and reference books, field visits, the study tour, boarding and lodging, insurance and freight of excess luggage due to training material acquired during the course. The fees does not include international travel.



AND Silsoe College *Cranfield*  
*Cranfield* UNIVERSITY  
UNIVERSITY

# MANAGEMENT OF IRRIGATION PROJECTS

A FIVE WEEK RESIDENTIAL COURSE AT MANANGA FOR  
MANAGERS OF ALL TYPES OF IRRIGATION PROJECTS.

MIP6 26 SEPTEMBER TO 28 OCTOBER 1994

## **Background to the Course**

Mananga is situated in a major irrigation complex where many different irrigation and production systems are in use. Coupled with the international business school standards of the campus this provides one of the best environments in the world for irrigation management training. Silsoe College, part of Cranfield University, offers a wide range of international postgraduate and post-experience courses, including irrigation management, irrigation engineering and agricultural water management. Staff are active internationally in irrigation research and consultancy work. To make the most of this synergy, Silsoe College and Mananga Management Centre have combined to present this course at Mananga.

## **Target Participants**

Managers of all types of irrigation projects, whether managing settlement schemes, large estates, commercial farms or advisory services. Women are particularly encouraged to apply.

## Benefits of Attending

By the end of the course, participants will have a thorough knowledge of the latest technical aspects of irrigation management and recent ideas in general management concepts. Their ability to analyse situations and identify workable solutions to their problems will be enhanced and they will handle their jobs with the confidence that comes from being effective.

## Course Coverage

- 1) Irrigation Technology
    - Implications of technology choice
    - Water application systems
    - Water delivery systems
    - Irrigation system design issues
    - Design/management interaction
  - 2) Factors affecting Irrigation Scheme Operation
    - Technical
    - Economic
    - Social
  - 3) Farm Planning and Economics
    - Crop planning
    - Financial planning
    - Farm management analysis
  - 4) Field Scheduling and Water Management
    - Determining crop water requirements
    - Determining optimum timing and depth of applications
    - Effects of delivery and application methods
    - Devising practical schedules
    - Leaching and salinity control
    - Evaluation methods
  - 5) Irrigation System Management
    - Determining scheme requirements
    - Allocation objectives and procedures
    - Water control and distribution
    - Operation and maintenance
  - 6) The Project Cycle
    - Planning, appraising and implementing
    - Monitoring and evaluating
  - 7) Financial Management
    - Management accounting
    - Budgeting
  - 8) Human Relations in Irrigation Project Management
    - Communication
    - Leadership, delegation, motivation, discipline
    - Farmers' behaviours
  - 9) Visits
- The course will make full use of the resources available to it in the surrounding area through visits, field trips and discussions with practising irrigation managers in the locality.

## Approach to Training – The Mananga Experience!

The basic feature of every Mananga course is its practical nature. Each course is based on a series of practical exercises, projects, syndicate activities, case studies and role playing. These are supplemented by group discussions and lectures containing the most pertinent and up-to-date information. Silsoe College staff and Mananga staff will combine to ensure the maximum relevance and effectiveness of these activities.

The number of participants in all courses is kept at a level which ensures maximum involvement by every course member and allows a lot of individual discussion with tutors. It also ensures that the excellent management library with its user-friendly computerised cataloguing system is readily available to anyone who needs it. The computer laboratory has adequate networked work stations for individual hands-on keyboard tutorials in key applications software.

The Mananga training approach, therefore, is to make maximum use of learning situations where participants are directly involved in analysing and solving problems similar to those faced by their various organisations. By being involved in these learning activities, it is expected that participants will develop a high level of confidence and skill in dealing with actual situations in their organisations. This hands-on learning approach has often been referred to as the **Mananga Experience**. Mananga's location right in the middle of major estate and smallholder irrigation schemes means that the Mananga experience on this course extends to practical involvement in irrigation scheme management on site.

Course MIP6: 'Inclusive fee for Tuition, Board and Accommodation: US\$6380

Application

Applicants should complete the form at the back (photo copies are acceptable) and send it as soon as possible, preferably at least six weeks before the course start date, to The Director, Mananga, P.O. Box 20, Mhlume, Swaziland.

\* At the same time candidates should commence enquiries for financial assistance to attend the course. Mananga will offer places to suitably qualified applicants subject to sponsorship being obtained.



Silsoe College Cranfield UNIVERSITY



## BANFF CENTRE FOR MANAGEMENT PROGRAM SCHEDULE

### RESOURCE AND ENVIRONMENT MANAGEMENT PROGRAMS

#### INTRODUCTION TO ENVIRONMENTAL CONFLICT RESOLUTION

March 2 - 4, 1994 (Barrie, Ontario)

November 2 - 4, 1994 (Banff)

March 8 - 10, 1995 (Barrie, Ontario)

This 2 1/2-day seminar examines applications of collaborative forms of decision making. The strengths and limitations of negotiation-based conflict resolution processes are examined in the context of current government and corporate approaches to decision making. It is both a conceptual and skills-based program that focuses on new and traditional approaches for resolving project siting conflicts, land use change and other environmental disputes. Through a combination of lectures, case studies, small group discussions and simulation exercises, participants learn techniques that include how to analyse a situation to determine the most appropriate approaches, how to structure the processes and how to reach lasting agreements.

#### ENVIRONMENTAL RISK AND HAZARDOUS WASTE MANAGEMENT

April 10 - 15, 1994

Effective environmental management requires anticipation and avoidance of environmental problems before crises occur. This program will provide environmental managers with the tools necessary to plan for and deal with environmental risk and hazardous waste situations. Two core seminars, each three days long, will deal separately with waste management and environmental risk management issues. Eight workshops, each one day long, will be offered over a two-day period and will allow participants to tailor their learning to those topics that most concern them.

#### GIS FOR NATIVE LANDS MANAGEMENT

September 18 - 23, 1994

This seminar provides a forum for the discussion of strategic planning issues and the exchange of ideas relating to native lands management and the use of GIS. Participants learn about the cost and benefits of GIS, the limitations and potential of the technology, and how to implement a successful system.

#### ADVANCED ENVIRONMENTAL CONFLICT RESOLUTION

September 18 - 23, 1994

This course is open to alumni of Introduction to Conflict Resolution and others who demonstrate equivalent experience or training. Building on the concepts and tools developed in the introductory seminar, this intensive experience focuses on further skill development and practice including the use of mediation and related "third party" roles. It involves lectures, role-playing simulations, and discussions that address the resolution of potential or ongoing conflicts in multi-party disputes.

The Banff Centre for Management  
Box 1020, Station 45  
Banff, Alberta T0L 0C0  
CANADA



The Banff Centre  
for Management



## **VALUING NATURAL RESOURCES**

October 23 - 29, 1994

Questions about the value of natural resources are at the centre of every impact assessment, cost-benefit analysis and decision analysis of environmental policy options. Yet it is often difficult to weigh options because non-market resource impacts, such as recreation or aesthetics, must be balanced against more easily quantified effects, such as employment benefits. How we use this diverse information to make socially-defensible and policy-relevant decisions about the management of environmental resources is the focus of this seminar. Valuing Natural Resources provides a framework for assessing trade-offs between competing uses of the environment. It emphasizes the strengths and limits of evaluation techniques.



## **ECOTOURISM**

March 9 - 13, 1994

November 20 - 26, 1994

The core program will provide participants with a solid knowledge of the principles and practices of sustainable tourism. Three concurrent follow-up workshops will focus on: business planning for ecotourism, ecotourism product development and marketing, and the development of ecotourism policies and operational standards. The Centre for Management has developed a simulation game as a teaching tool which will be used in class for the first time in March 1994.

## **GREEN MARKETING**

December 1994

In the quickly expanding markets of Southeast Asia, business has taken first priority over the last 5 to 10 years. Environmental issues are now becoming part of the business agenda - not only because it makes good business sense but it is also becoming a necessary part of doing business. How does an executive or a company develop the means to successfully create "green" marketing strategies? This program will be held at an overseas location, such as Hong Kong.

## **GIS PROJECT DESIGN AND MANAGEMENT**

February 5 - 11, 1995

This seminar brings together the technological and managerial aspects of geographic information systems (GIS). In examining these issues from a broad perspective, the program fulfils its main objective of helping participants from diverse backgrounds to successfully implement GIS systems. Participants work on each stage of GIS design and implementation, which facilitates practical application to their individual situations. A dynamic blend of teaching techniques, including lectures, small group discussions, case studies and tutorial exercises are utilized in this seminar. The case studies used are examples of real implementations from large and small organizations in North America.

## **GIS FOR RESOURCE CONSERVATION AND ENVIRONMENTAL MANAGEMENT**

Dates to be Announced

This is a one-week course intended for experienced professionals who want to increase their understanding of spatial information handling and related information technology.

Topics include GIS fundamentals; the acquisition and storage of spatial data; current applications of GIS to local, regional, and global environmental concerns; key issues in the development of GIS for environmental and conservation applications; and an introduction to spatial modelling and analysis. Project management and systems design are not dealt with in this course.

## **ADDITIONAL INFORMATION**

For more information on Resource and Environment Management Programs, please call Felicity Edwards at (403) 762-6137 or fax (403) 762-6422.

**F. C. SCHAFFER & ASSOCIATES, INC.**  
**INTERNATIONAL TRAINING SERVICES**



International Training Services provides a unique and structured approach to training. We offer training courses in the United States for middle to senior management supplemented by an industrial placement and attachment service; regional training programmes throughout the world for middle management; and in-country training, consultancy and project services to assist with the design and implementation of tailor-made programmes.

Our training courses are developed to meet the changing needs of countries overseas and to enable delegates to apply course learning more effectively to their own work. The courses are highly intensive and practical and offer delegates an unparalleled opportunity to meet other professionals within their discipline.

Training programmes offered are specifically designed for overseas personnel who are particularly involved in organisational improvements or efficiency. Learning is related to job requirements by encouraging studies and group work related to situations faced in the workplace. This helps to ensure that learning and transfer of technology is both relevant and applicable to a wide variety of requirements.



**F. C. SCHAFFER & ASSOCIATES, INC.**  
**INTERNATIONAL TRAINING SERVICES**

1020 Florida Boulevard  
Baton Rouge, Louisiana 70802 USA  
Telephone: (504) 343-9262 Fax: (504) 343-0420

**F. C. SCHAFER & ASSOCIATES, INC.**  
**INTERNATIONAL TRAINING SERVICES**  
**TRAINING COURSES IN THE UNITED STATES OF AMERICA**

**1994**

| LOUISIANA COURSES                                        | JAN                                                                                                                                                                  | FEB | MAR | APR | MAY    | JUNE   | JULY      | AUG       | SEPT      | OCT    | NOV    |
|----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-----|--------|--------|-----------|-----------|-----------|--------|--------|
| Estate & Utilities Maintenance                           |                                                                                                                                                                      |     |     |     |        | 6 - 24 |           |           |           |        |        |
| Boiler & Milling Operations                              |                                                                                                                                                                      |     |     |     |        |        |           |           | 12 - 23   |        |        |
| Environmental Awareness & Pollution Control              |                                                                                                                                                                      |     |     |     |        |        | 5 - 27    |           |           |        |        |
| Management & Administration of Sugar Factories           |                                                                                                                                                                      |     |     |     | 2 - 27 |        |           |           |           |        |        |
| Factory Maintenance                                      |                                                                                                                                                                      |     |     |     |        |        |           |           |           |        | 7 - 25 |
| Sugar Processing & Refining Technology                   |                                                                                                                                                                      |     |     |     |        |        |           |           |           |        | 7 - 25 |
| By-Product & Co-Generation Technology                    |                                                                                                                                                                      |     |     |     |        |        |           |           |           | 3 - 14 |        |
| Agricultural Equipment Maintenance & Workshop Management |                                                                                                                                                                      |     |     |     |        |        |           | 8 - 26    |           |        |        |
| Introductory Sugar Boiling                               |                                                                                                                                                                      |     |     |     |        |        | * 14 days |           |           |        |        |
| Advanced Sugar Boiling                                   |                                                                                                                                                                      |     |     |     |        |        |           | * 14 days |           |        |        |
| Bench Chemist                                            |                                                                                                                                                                      |     |     |     |        |        |           | * 14 days |           |        |        |
| Chief Chemist                                            |                                                                                                                                                                      |     |     |     |        |        |           | * 14 days |           |        |        |
| Bagasse Boiler Operations                                |                                                                                                                                                                      |     |     |     |        |        |           | * 14 days |           |        |        |
| Cane Quality & Analysis                                  |                                                                                                                                                                      |     |     |     |        |        |           |           | * 14 days |        |        |
| Research Associateships                                  | Research Associateships with U.S.U. Audubon Sugar Institute are available through ITS.                                                                               |     |     |     |        |        |           |           |           |        |        |
| Industrial Placements                                    | Arrangements can be made for delegates to spend time attached to local sugar related industry organisations prior to attending or on completion of training courses. |     |     |     |        |        |           |           |           |        |        |
| Specialist Training Programmes                           | Upon request we will develop special training programmes tailored to suit the needs of individuals and organisations.                                                |     |     |     |        |        |           |           |           |        |        |

**COURSE DESCRIPTION****ENVIRONMENTAL AWARENESS & POLLUTION CONTROL**

Governments and industry generally are coming under increasing pressure, both externally and internally, to limit pollution and to protect the environment. Any controls and restrictions that are introduced to better and improve the management of the environment will almost certainly affect the Sugar Industry. Indeed, the social and economic implications to the industry in relation to the adoption and implementation of measures for environmental control and management are far reaching and profound.

This course addresses the latest environmental issues and concerns with particular relevance to the Sugar Industry. It also provides delegates with the opportunity to visit organisations such as Oil and Petro-Chemical plants that are at the forefront in tackling environmental management and control. Particular attention will be paid to limiting or minimising the social and economic costs to the industry. Examples will be shown where the application of controls and the developments that this has brought about in process thinking, has in some cases, improved productivity and production ratios.





UNIVERSITY OF MASSACHUSETTS  
AMHERST

The Environmental Insti

### Overview

The University of Massachusetts Amherst is the major academic center for environmental education, research, and public service in the northeastern United States. On the University's 1,400-acre campus, nine schools and colleges offer bachelor's degrees in over 90 areas, master's degrees in 67 and doctorates in 50 to nearly 17,000 undergraduates and 6,000 graduate students. Located between the Connecticut River and the Quabbin Reservoir, in the richest agricultural region of the state, the Amherst campus manages 2,000 acres of experimental forest.

State and federal environmental agencies have a long history of utilizing the University as a research and professional training arm, drawing particularly on the College of Food and Natural Resources, School of Public Health and Health Sciences, College of Engineering, the Environmental Institute, and public policy experts in various academic departments. In 1992 alone, faculty researchers received more than \$12 million in environmental research and training grants. The research branches of the U.S. Fish and Wildlife Service, Forest Service, and National Marine Fisheries Service have established research and education units on the Amherst campus. In 1990, the U.S. Fish and Wildlife Service opened the Silvio O. Conte Anadromous Fish Research Laboratory on the Connecticut River in Turner's Falls and moved its northeast regional headquarters next to campus in 1993. Over a dozen special campus units and programs are actively engaged in assisting members of the environmental business community in training, technology transfer, and improved business management.

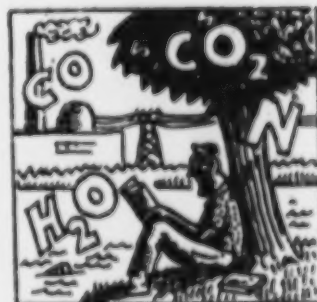
The environmental expertise available at UMass Amherst addresses many of the major environmental problems identified as federal and state priorities. At the federal level, these include loss of biological diversity and habitat alteration and destruction caused by such phenomena as loss of wetlands, soil erosion, and water pollution. At the state level, identified problems include air pollution, acid deposition, solid and hazardous waste, wastewater pollution, and heavy use of agricultural chemicals.

BEST COPY AVAILABLE

### Environmental Education and Training

Several thousand students each year enroll in environmental science and related courses and nearly one thousand of these students are majoring in subjects concerned with the environment at the graduate and undergraduate level. UMass Amherst offers more than 30 degree programs with an environmental component.

| College of Food and Natural Resources       |           | Degrees Offered |       | Phone (413) |
|---------------------------------------------|-----------|-----------------|-------|-------------|
| Entomology                                  | B.S.      | M.S.            | Ph.D. | 545-2283    |
| Integrated Pest Management                  | B.S.      |                 |       | 545-2283    |
| Environmental Sciences                      | B.S.      |                 |       | 545-2226    |
| Food Science                                | B.S.      | M.S.            | Ph.D. | 545-2278    |
| Arboriculture/Park Management               | A.S.      |                 |       | 545-2665    |
| Forestry                                    | B.S.      |                 |       | 545-2665    |
| Forestry and Wood Technology                |           | M.S.            | Ph.D. | 545-2665    |
| Natural Resource Studies                    | B.S.      |                 |       | 545-2665    |
| Wildlife and Fisheries Biology              | B.S.      | M.S.            | Ph.D. | 545-2665    |
| Wood Science and Technology                 | B.S.      |                 |       | 545-2255    |
| Environmental Design                        | B.S.      |                 |       | 545-2255    |
| Landscape Architecture                      | B.S.      | M.L.A.          |       | 545-2255    |
| Regional Planning                           |           | M.R.P.          | Ph.D. | 545-2255    |
| Landscape Arch/Regional Planning            |           | M.L.A./M.R.P.   |       | 545-2255    |
| Floriculture                                | A.S.      |                 |       | 545-2242    |
| Fruit and Vegetable Crops                   | A.S.      |                 |       | 545-2242    |
| Plant and Soil Sciences                     | B.S.      | M.S.            | Ph.D. | 545-2242    |
| Turfgrass Management                        | A.S.      |                 |       | 545-2242    |
| Plant Pathology                             | B.S.      | M.S.            | Ph.D. | 545-2280    |
| Resource Economics                          | B.S.      | M.S.            | Ph.D. | 545-5732    |
| College of Arts and Sciences                |           |                 |       |             |
| Biology                                     | B.A./B.S. | M.S.            | Ph.D. | 545-2233    |
| Plant Biology                               |           | M.A./M.S.       | Ph.D. | 545-2235    |
| Microbiology                                | B.A./B.S. | M.S.            | Ph.D. | 545-2051    |
| Biochemistry/Molecular Biology              | B.A./B.S. |                 |       | 545-0353    |
| Molecular and Cellular Biology              |           | M.S.            | Ph.D. | 545-3246    |
| Chemistry                                   | B.A./B.S. | M.S.            | Ph.D. | 545-2291    |
| Geography                                   | B.A./B.S. | M.S.            |       | 545-2286    |
| Geology                                     | B.A./B.S. | M.S.            | Ph.D. | 545-2286    |
| Political Science                           | B.A.      | M.A.            | Ph.D. | 545-2438    |
| Public Administration                       |           | M.P.A.          |       | 545-2438    |
| Polymer Science and Engineering             |           | M.S.            | Ph.D. | 545-3149    |
| Economics                                   | B.A.      | M.A.            | Ph.D. | 545-2580    |
| Sociology                                   | B.A.      | M.A.            | Ph.D. | 545-0577    |
| College of Engineering                      |           |                 |       |             |
| Civil and Environmental Engineering         | B.S.C.E.  | M.S.C.E.        | Ph.D. | 545-2508    |
|                                             |           | M.S. Env. E.    |       | 545-0665    |
| School of Public Health and Health Sciences |           |                 |       |             |
| Public Health                               |           | M.S.            | Ph.D. | 545-4271    |
|                                             |           | M.P.H.          |       |             |



### Professional Training Courses

UMass Amherst faculty provide short, professional training courses for local, state, and federal agency staff in many environmental subject areas. Professional training courses offered to date include:

Chemistry of Soil and Water Contaminants  
 Drinking Water Treatment  
 Ecology and Wildlife Management  
 Fate and Transport of Heavy Metals  
 Hydric Soils  
 Hydrogeology  
 Indoor Air Monitoring and Evaluation  
 Landfill Liners  
 Lead Abatement Training  
 Lead Inspector Training  
 Municipal Solid Waste Incinerator Ash  
 Quantitative Risk Assessment  
 Chronic Disease Epidemiology  
 Principles of Fisheries Stock Assessment  
 Risk Communication for Administrators  
 Sample Collection and Analysis  
 Techniques for Effective Public Presentations  
 Toxicology and Risk Assessment  
 Wetlands Identification and Delineation  
 Wetlands Wildlife Management

The Environmental Institute  
 Blaisdell House Box 30820  
 University of Massachusetts  
 Amherst, MA 01003-0820  
 Telephone: (413) 545-2842  
 Fax: (413) 545-2304  
 Internet: Larson@TELUMass.edu  
 Telex: 948633 CAMP CTR HTL



THE  
CENTER FOR  
ENVIRONMENTAL  
MANAGEMENT  
TUFTS UNIVERSITY



AND



THE  
UNITED NATIONS  
ENVIRONMENT  
PROGRAMME

INTERNATIONAL  
POST-GRADUATE COURSE  
IN  
ENVIRONMENTAL MANAGEMENT

1 SEPTEMBER - 9 DECEMBER 1994  
and  
SEPTEMBER - DECEMBER 1995

Addresses for Correspondence:

Correspondence regarding implementation of  
the training course should be addressed to:

Dr. Richard E. Wetzel  
Center for Environmental Management  
Tufts University  
Curtis Hall, 474 Boston Avenue  
Medford, Massachusetts 02155  
USA  
Telephone: (617) 627-3531  
FAX: (617) 627-3084

Correspondence regarding admissions and  
administration of the course should be  
addressed to:

Dr. Michael Atchia  
Environmental Education and  
Training Unit  
UNEP  
P.O. Box 30552  
Nairobi, KENYA  
Telephone: (2542) 623462  
FAX: (2542) 226890

## Background:

Counteracting the accelerating rate of worldwide environmental degradation requires unprecedented, rapid development of human expertise and institutional capabilities. Agenda 21 of the U.N. Conference on Environment and Development stresses the need for environmental capacity building within developing nations, where most of the world's population growth and biological diversity co-occur. With concordant goals, the United Nations Environment Programme and Tufts University are collaborating with nominating governments to enhance the capacity for effective environmental decision-making within these countries, through the Intensive International Post-Graduate Program in Environmental Management.

Fellows are regarded as active participants, rather than passive students. Instruction focuses upon highly relevant case studies of environmental problem solving—instances of success and failure from throughout the international arena are carefully diagnosed. The goal is to empower Fellows by introducing effective, readily transferable means of environmental assessment, planning and policy. In addition to specially designed core courses, elective selections represent a broad venue of courses. Fellows are encouraged to "multiply" their training by disseminating its components among colleagues upon returning home.

The workload is very demanding and competition for admission is extremely high. Fellows who are admitted should expect to participate actively as both instructors and as learners. This high level of involvement necessitates that all Fellows read and speak English with great ease. Considerable portions of this training are dependent upon Fellows being able to learn from and teach each other.

The Program is comprised of three components

- A. The CORE-CURRICULUM consists of three courses:
  1. Science-Based Principles of Environmental Management, emphasizing ecological patterns and underlying processes at organismal, populational, ecosystem, landscape and biospheric levels; emphasis is placed upon application of these principles to the resolution of problems in sustainable development;
  2. Environmental Management Technologies for Impact Assessment and Monitoring, tools employed identify gradients of ecosystem impacts, including terrestrial, aquatic and aerial approaches; participants become familiar with the use of remote sensing and geographic information systems (GIS) for environmental impact monitoring;
  3. Equitable Policies for Environmentally Sustainable Development, exploring components of resource valuation, types of regulation, national environmental policy acts, the establishment standards for air, water and soil quality, transboundary issues, including impacts of trade agreements and hazardous waste shipment; global treaty formulation, international law and the environment.
- B. SPECIALIZED STUDIES which include:
  1. an elective course selected by each Fellow from over 30 courses within Tufts' environmental science, technology and policy curricula;
  2. intensive modules designed explicitly for Fellows seeking further training in: Environmental Negotiation & Conflict Resolution; Urban Pollution Control and Prevention; Environmental Health; Ecological Economics; Environmental Management Computing.
- C. ENVIRONMENTAL PROJECT DESIGN & IMPLEMENTATION (*case study emphasis*) involving:
  1. a detailed needs assessment of each Fellow, through individual tutorial meetings, a workshop on proposal creation, and advisory;
  2. case study summation to the UNEP/Tufts Fellows and presentation in depth to a larger audience of peers within the Boston region; peer evaluation; editing of case study reports for publication;
  3. inter-disciplinary focal team projects, including analysis and presentation;
  4. roundtable seminars in international environmental management provided by visiting lecturers.

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**DUKE UNIVERSITY**  
**CENTER FOR INTERNATIONAL  
DEVELOPMENT RESEARCH**



**PROGRAM IN  
INTERNATIONAL  
DEVELOPMENT  
POLICY (PIDP)**

**RATIONALE AND APPROACH**

**I**n both industrialized and developing countries, the resource and environmental consequences of development are heavily influenced by decisions made in public, private, and international organizations. Policymakers must consider the often subtle interactions among competing factors, the limited availability of accurate information, and the high costs associated with unsuccessful policy decisions. Within this complex and constantly changing situation, sound policy analysis is essential to balance the economic, social, political, and environmental interests and effects of development.

Recognizing that real world decision makers require training that enhances their ability to solve concrete policy problems, the PIDP takes a unique approach. Through participation in small seminars and workshops with technical specialists, PIDP Fellows receive a firm grounding in development theory and policy analysis. They choose graduate-level courses and undertake independent research related to their individual interests. At the same time, Fellows work together to develop recommendations for policy design and restructuring policymaking institutions. Their case studies and policy papers are shared and circulated to enhance their importance beyond the classroom.

**FOR FURTHER  
INFORMATION AND APPLICATIONS**

Please Write to:  
Program in International Development Policy (PIDP)  
Center for International Development Research  
Duke University  
Box 90237  
Durham, NC 27708-0237 USA

Or Call:  
(919) 613-7333

Fax:  
(919) 684-2861

Electronic Mail (BITNET or INTERNET):  
cidr@pps.duke.edu

**PARTICIPANTS**

**S**ince the Program began in 1987, the men and women attending Duke University as PIDP Fellows have come from 25 countries around the world. In addition to their diverse geographic backgrounds, Fellows have brought a variety of career experiences and academic interests to the Program. Civil engineers, urban planners, agricultural and resource economists, geographers, lawyers, archaeologists, legislators, diplomats, activists, and other professionals have all taken part in the PIDP. Upon returning to their countries, Fellows have served as public officials, policy analysts, independent researchers, and leaders of non-governmental organizations.

Although the PIDP covers a broad range of topics, individuals with career experience in the following areas will find the Program of particular relevance:

- agencies and ministries concerned with:
  - environmental and natural resource management
  - urban and regional planning
  - industrial planning and development
  - technology transfer and appropriate technology
  - energy policy
  - public sector/private sector relations
- multilateral or national finance institutions
- environmental agencies
- non-governmental organizations
- state-owned enterprises
- international development agencies

## PROGRAM STRUCTURE

### Development Policy Seminars

All PIDP participants are required to attend at least two development policy seminars per semester. The seminars, which form the core of the Program, provide rigorous theoretical training, yet remain grounded in pragmatic policy analysis and case studies. Each of the development policy seminars is taught by Duke faculty members with expertise in economics, public management, political science, or natural resource management.

Generally, the Program offers at least one Sector Seminar and one Issue Seminar per semester, from among the following topics:

**Sector Seminars:** Exploration of the relationships among sectoral policies and sustainable development in developing countries.

- A. Urban and Rural Development in Developing Countries
- B. Natural Resource and Environmental Policymaking
- C. Urban Environmental Issues in Developing Countries
- D. Restructuring the Energy Sector in Developing Countries
- E. Central American Resource and Environmental Policy

**Issue Seminars:** Exploration of policy issues that cut across sectors in developing countries.

- A. Appropriate Technology and Technology Transfer
- B. Economic Analysis of Non-Renewable Resources
- C. Multinational Investment in Developing Countries
- D. Technology Transfer and Foreign Aid to Developing Countries
- E. Privatization and the Role of the State in Development

### Additional Coursework

In addition to the development policy seminars, participants in the Program are free to enroll in graduate courses offered by other departments. Typically, PIDP Fellows enroll in two elective courses each semester in addition to the core seminars.

Although the PIDP is not a joint degree program, Fellows frequently utilize the resources of Duke's highly ranked professional schools, including the School of the Environment, the Fuqua School of Business, and the Law School.

The following is a sampling of courses Fellows have taken in recent years.

#### Cultural Anthropology:

Post Colonial Anthropology  
The Anthropology of Women  
Food in Cross Cultural Perspectives  
Gender, Race and Class

#### Economics:

Macroeconomic Policy  
International Trade and Finance  
Public Finance  
Development Economics I & II

#### Environmental Studies:

Resource and Environmental Economics  
Economic Analysis of Resources and Environmental Policy  
Conservation and Sustainable Development I & II  
Land Use, Topography and Policy

#### History:

Topics in Modern World Environmental History  
Geographic Perspectives in History I & II  
Problems in Modern Latin American History  
Political Economy of Development: Theories of Change in the Third World

#### Law:

International Law  
Environmental Law

#### Political Science:

Political Economy of World Environmental Resources  
Theories of International Relations  
Comparative Public Policy  
Politics of the Policy Process

#### Public Policy Studies:

Policy-Making in International Organizations  
Policy-Making in Developing Countries

#### Sociology:

Theories of Change in the Third World  
Population Dynamics  
Urbanization and Migration  
Markets and Market Behavior

## ELIGIBILITY AND SELECTION

Professionals with several years of experience as practitioners or applied researchers in a development related field are eligible to apply to the Program in International Development Policy. Applicants with five or more years' relevant work experience are strongly preferred. Applicants with three to four years of professional experience may also be considered, if their work has concentrated on issues directly related to the Program's focus.

Admission to the PIDP is competitive, based equally upon the applicant's professional and academic credentials, written application, English proficiency (as demonstrated by TOEFL scores), and statements of recommendation. All applicants must have the academic background to undertake graduate-level work. Duke University requires official transcripts demonstrating completion of the Bachelor's degree or equivalent.

A high level of spoken and written proficiency in English is absolutely essential to Fellows' success in the Program.

**APPLICATION DEADLINE:** The deadline for receipt of applications to the Program is January 15. Each year, priority will be given to applications received on or before the official deadline; however, if space in the Program is available, late applications may be considered.

Most Fellows begin the Program at the start of the academic year in late August. Matriculation for the semester beginning in January may also be possible.

## IMPORTANT INFORMATION ABOUT FINANCIAL ASSISTANCE 1995-96 ACADEMIC YEAR

Beginning with the 1995-96 academic year, a limited number of scholarships will be available to qualified applicants to the Program in International Development Policy (PIDP). The purpose of the scholarships is to allow participation by the most qualified new applicants to the Program who otherwise would not be able to attend due to financial limitations. CIDR expects that competition for these scholarships will be extremely keen.

The primary criteria for awarding the scholarships are merit and compatibility of the applicant's interests and experience with the Program's current focus. One or two year, degree or non-degree applicants will be eligible to receive the scholarships; however, the scholarships will be offered for one year of study only. Scholarship awardees who wish to attend the PIDP for two years can compete with incoming students for funding, but incoming students will have priority.

Applicants who wish to be considered for this source of support must meet the following requirements: (1) CIDR must receive the applicant's complete application by the stated application deadline of January 16, 1996; (2) applicants must demonstrate that they have applied for at least two other sources of funding; (3) if selected to receive the scholarship, the applicant must reply by a stated CIDR deadline; (4) applicants who have received comparable funding from other sources are ineligible to receive the PIDP scholarship.

Because only a very limited number of these awards will be available, all applicants to the Program who need financial assistance should explore every possible source of financial support for their study. The search for funding should begin as early as possible, as most agencies have early application deadlines. A list of some of the foundations, agencies, and programs that offer fellowship support for graduate study is available from CIDR upon request.

## University of Washington School of Law

### Graduate Programs

*Master of Laws (LL.M.) degree programs in Asian and Comparative Law, Law and Marine Affairs, International Environmental Law, and Law of Sustainable International Development at the University of Washington School of Law. Each of these programs emphasizes an aspect of public international and comparative law, building on the ties of the Law School with the Pacific Rim.*

## INTERNATIONAL ENVIRONMENTAL LAW



The discovery of the ozone hole, tropical deforestation, and fears of global warming have catapulted international environmental issues into public and political prominence.

In 1988 *Time* Magazine named the endangered Earth "Planet of the Year," and in June 1992 the UN Conference on Environment and Development (popularly known as the "Earth Summit") brought together officials from more than 150 countries—the largest gathering of world leaders in history.

A rapidly growing body of international law addresses environmental issues at the bilateral, regional, and global levels. Numerous treaties have been adopted dealing with such subjects as climate change, protection of endangered species, depletion of the ozone layer, acid rain, nuclear accidents, and marine pollution from oil and plastics. States have declared Antarctic off-limits to economic development and have negotiated an agreement to protect its unique environment. And development assistance and trade policies are increasingly judged by their environmental as well as their economic effects.

Created in 1992, the new LL.M. program in International Environmental Law provides specialized training in international environmental law and in relevant scientific and policy disciplines. The program will assist lawyers whose jobs require them to undertake policy formulation and advice on environmental law issues for private and governmental entities. The program will accommodate between eight and twelve students each year.



**Interdisciplinary Curriculum:** Effective work in the international environmental area requires substantive knowledge of both international and environmental law, as well as a background in the relevant scientific and engineering issues, resource economics, and conservation policy. Students obtain in-depth, interdisciplinary training, taking advantage of the University's unusually rich course offerings in departments such as environmental studies, international studies, marine affairs, public affairs, forestry, fisheries, economics, zoology, and engineering.

**Publications:** The Law School publishes the American Society of International Law's newsletter on International Environmental Law. Interested LL.M. students have contributed to the newsletter.

## Program Requirements:

### 40 Hours of Total Credit

15 hours must be earned in Law School classes; the remaining 25 credits may be earned in any department.

### Writing and Research Requirement

Completion of a research paper is required and is generally satisfied by taking the *Seminar on Problems in International Environmental Law* (LAW B511), but with permission may be satisfied by any related Law School seminar or with *Independent Research* (LAW 600A).

### Required Courses

#### LAW B511

Seminar on Problems in International Environmental Law

4 credits

Bodansky

Study and research on selected problems in international environmental law (e.g., global warming, deforestation, loss of biodiversity, depletion of the ozone layer). Interdisciplinary approach emphasized. In lieu of an exam, students must complete and present to the class a substantial research paper.

#### LAW A545

International Environmental Law

3 credits

Bodansky

Examination of the basic concepts and principles of international environmental law. Survey of relevant international institutions, treaty arrangements, and customary norms at the bilateral, regional, and global levels dealing with air and marine pollution and wildlife and habitat conservation. Emphasis on current problems such as global warming, acid rain, depletion of the ozone layer, tropical deforestation, and biological diversity.

#### LAW A574

The International Legal Process

4 credits

Bodansky

Introductory course teaches how law—and lawyers—influence relations between and among States, both in the economic and political spheres and defines/describes the legal process by which interests are adjusted and authoritative decisions made on the international plane. Considerable attention will be also devoted to the classic problems of public international law, e.g. the nature and sources of international law, jurisdiction, the law of treaties. (This requirement may be waived if an equivalent course has already been taken.)

#### LAW A527

Environmental Law: Pollution Control

3 credits

Rodgers

This is a survey of environmental issues developed in the context of pollution control. Emphasis is upon procedural and administrative issues common to pollution control regulation. Coverage includes air, water, and pesticides law and policy. (This requirement may be waived if an equivalent course has already been taken.)

**All inquiries and communication should be directed to:**

#### Graduate Admissions

University of Washington School of Law  
1100 N.E. Campus Parkway  
Seattle, WA 98105  
USA

Phone: (206) 543 2283

Fax: (206) 543 5671

# UNITED • STATES

## ENVIRONMENTAL • TRAINING • INSTITUTE

The United States Environmental Training Institute (USETI) is a joint effort between the U.S. environmental industry and the U.S. government. As a non-profit institute, USETI's goal is to promote the transfer of environmentally sound technology and management principles by providing training courses to qualified public and private sector officials from developing countries around the world.

USETI training takes place in Washington, D.C., in existing private sector and government facilities around the U.S. and in Asia and the Caribbean. Most courses begin in Washington with a 3-5 day orientation provided by various U.S. government agencies, industry/trade associations, and non-governmental organizations. USETI's training is always tailored to meet the needs of the participants in a particular course and provides a context for the technical training which follows. The Washington orientations typically emphasize topics such as Total Quality Environmental Management (TQEM), pollution prevention, regulatory development, computer applications to environmental management, risk assessment and decision making.

### ☐ Who qualifies for USETI training?

Professionals involved in environmental technology or management and currently employed in the public or private sector of a developing country are eligible for USETI training courses. (USETI defines "Developing Countries" on a broad front and determines potential course participants to be from a developing country on a case-by-case basis.) All USETI courses, unless noted otherwise, are conducted in English. Participants must have a working fluency in the English language and a secondary education is required. A university or advanced degree is highly preferable.

### ☐ What is the funding process?

Funding for participants travel, per diem and administration fee is obtained by one of the following:

1. Participants obtain funding for expenses directly from their employers (either government or private sector organizations).
2. Participants can arrange to be sponsored by various organizations such as USAID, the World Bank, and various foundations and non-profit groups.
3. USETI can arrange and offer financial assistance to a limited number of participants. These scholarships are handled on a case-by-case basis and must be coordinated through the USETI office.

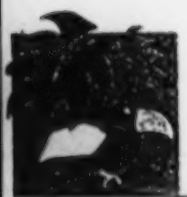
Regardless of sponsorship, all applicants are subject to the same selection process.

## USETI

### ENVIRONMENTAL TRAINING INSTITUTE

1000 Thomas Jefferson St., N.W.  
Suite 106  
Washington, DC 20007  
USA

Tel: (202) 338-3400  
Fax: (202) 333-4782



## USETI 1994 Training Courses



|               |                                                                                                |               |                                                                                                       |
|---------------|------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------------------------------------------------------------|
| <b>94-001</b> | <b>January 20-21</b><br>Hazardous Waste Management I<br>(Indonesia)                            | <b>94-014</b> | <b>June 13-17</b><br>Landfill Management<br>(Puerto Rico)                                             |
| <b>94-002</b> | <b>January 24-28</b><br>Hazardous Waste Management II<br>(Indonesia)                           | <b>94-015</b> | <b>June 20 - July 1</b><br>Municipal and Rural Wastewater<br>Treatment                                |
| <b>94-003</b> | <b>February 7-11</b><br>Pollution Prevention<br>(Puerto Rico)                                  | <b>94-016</b> | <b>August 1-13</b><br>Environmental Restoration and<br>Waste Management                               |
| <b>94-004</b> | <b>February 28 - March 11</b><br>Medical Waste Management                                      | <b>94-017</b> | <b>September 12-23</b><br>Industrial Wastewater Treatment                                             |
| <b>94-005</b> | <b>March 21-30</b><br>Environmental Project<br>Management                                      | <b>94-018</b> | <b>September 12-16</b><br>Medical Waste Management and<br>Proposal Development (Mexico)               |
| <b>94-006</b> | <b>March/April</b><br>Environmental Management<br>Through Community<br>Development (Indonesia) | <b>94-019</b> | <b>September 26 - October 7</b><br>Municipal Solid Waste Planning<br>and Management                   |
| <b>94-007</b> | <b>April 11-15</b><br>Pollution Prevention<br>(Venezuela)                                      | <b>94-020</b> | <b>October 3-14</b><br>Environmental Site Assessment                                                  |
| <b>94-008</b> | <b>April 18-29</b><br>Water Quality Testing                                                    | <b>94-021</b> | <b>October 17-21</b><br>Risk Management for Financial<br>Institutions                                 |
| <b>94-009</b> | <b>April 21-29</b><br>Pollution Prevention                                                     | <b>94-022</b> | <b>October 17-27</b><br>Urban Finance (Bangkok)                                                       |
| <b>94-010</b> | <b>May 2-13</b><br>Coastal Zone Management                                                     | <b>94-023</b> | <b>November 7-18</b><br>Landfill Management                                                           |
| <b>94-011</b> | <b>May 9-20</b><br>Technologies of Bioremediation                                              | <b>94-024</b> | <b>October/November</b><br>Environmental Mananagement<br>Through Community<br>Development (Sri Lanka) |
| <b>94-012</b> | <b>May 23 - June 2</b><br>Urban Development and<br>Environmental Policies<br>(Bangkok)         | <b>94-025</b> | <b>December 5-16</b><br>Air Pollution Control and<br>Wastewater Treatment<br>Technologies             |
| <b>94-013</b> | <b>June 6-17</b><br>Demand Side Management                                                     |               |                                                                                                       |

*All course dates are subject to change*





## Vrije Universiteit Brussel Belgium

Faculty of Medicine and Pharmacy

G.G.S. Master's and Ph.D. Programs in

# HUMAN ECOLOGY

Under the auspices of the World Health Organisation  
Endorsed by UNESCO (Man and Biosphere Program)



Master's Program in Human Ecology curriculum includes:

Environment and Ethics  
International Environmental Policy and Law  
Environment and Development  
Agriculture and Environment  
Climatic Change  
Soil Science and the Rehabilitation of Damaged Land  
Chemical Aspects of Air Pollution  
Water Quality, Waste Water Treatment and Water Supply  
Oceanography  
Environmental Psychology  
Waste Management  
Environmental Management  
Ecology and Industry  
Environmental Movements  
Environment and Criminality  
Environmental Issues of Recreation and Tourism  
Diet and Health  
Infectious Diseases in Developing Countries  
Toxicology  
Ecotoxicology  
Biology and Demography  
Master's Thesis

The two year Master's Program is taught in the English language.

For a free brochure, additional information and application forms, contact:

Department of Human Ecology  
The Admissions Administrator  
Free University Brussels (VUB)  
Pleinlaan, 2 B-1050 Brussels, Belgium

tel.: 32-2-641 35 30  
fax: 32-2-641 36 12

## **HUMAN ECOLOGY CURRICULUM**

The two-year Master's Program in Human Ecology is taught entirely in the English language. The academic year begins in early October, with first session examinations (see 'Examinations and Grading') taking place mostly in June. First year courses run from the beginning of October through to the end of April. Second year courses begin in October and wind up by the end of February. This schedule is intended to facilitate completion of the Master's thesis in time to present and defend it in the first session.

Most classes are scheduled during weekdays, with occasional evening and Saturday classes. Individual class periods last from one to three hours, the longer ones demanding more concentration but also offering more opportunity for discussion and interaction between students and faculty.

### **First Year Curriculum**

The first year of the program contains three fundamental areas of study. The supporting courses are intended to build a theoretical and practical foundation. They include Overview of Human Ecology, Ecology, Probability and Statistics and Computer Science. The second area, 'Biosphere structure and processes,' looks at the biosphere's main components - water, air and soil - showing how these 'compartments' interact, and how humans affect and are affected by each of them. The topical courses complement aspects of the first two areas with a number of courses on pollution, ecology and industry, and environmental decision making.

These three fundamental areas are supplemented by optional courses from which students must select two or three that are of most interest to them. Periodically, lectures will be scheduled for guest speakers (usually from abroad) involved in human ecology or related fields. These fit into the lecture series, portions of which involve the combined first and second year group.

The Human Ecology seminars are specifically for first year students, and are intended to address special departmental topics of theoretical and practical importance. The seminars are organized and supervised by an academic assistant from the HE department, but it is the first year students themselves who set the agenda of discussion topics, depending upon the group's specific needs. Some suggested topics might be to invite the Department's doctoral students to speak about their research in an informal group setting, a group discussion about methods of enhancing the interdisciplinarity of the Program, or presentations by the first year students themselves concerning their own fields of expertise and how they see that fitting into the framework of human ecology.

### **Second Year Curriculum**

The second year is devoted to more topical courses and the thesis, which counts for one third of the final grade. The 22 shorter courses are grouped into ten 'blocks', each of which is coordinated by one professor. The coordinator is responsible on a theoretical level for making clear the links between the various courses in the block as well as the links between the various blocks in the second year. On a practical level, the coordinator is responsible for organizing an examination which integrates aspects of each course in the block.

In addition to the course work, research leading to the preparation and submission of a thesis is an essential part of the second year. The subject chosen for a thesis should be of relevance to Human Ecology issues and should preferably take an interdisciplinary view. Research work for a thesis can be done on an individual basis or as part of a research team. At the end of the year students are asked to defend their theses in an open seminar.





DRESDEN UNIVERSITY OF TECHNOLOGY  
FEDERAL REPUBLIC OF GERMANY



DRESDEN - CAPITAL OF THE FREE STATE OF SAXONY

## ENVIRONMENTAL MANAGEMENT FOR DEVELOPING COUNTRIES

12 January - 12 July 1995

### 18th UNEP/UNESCO INTERNATIONAL POST-GRADUATE COURSE: ENVIRONMENTAL MANAGEMENT FOR DEVELOPING COUNTRIES

#### Course Issues

- 1 Environment and Development
  - Development since the United Nations Conference on Human Environment in Stockholm in 1972
  - "Rio-Declaration", "Agenda 21" and the follow-up activities of the UNCED conference
  - Global environment and development policy
  - Review of global environmental problems in industrialized and developing countries
  - Environmental actions of the various UN organizations such as UNEP, UNESCO, IUCN, World Bank etc.
- 2 Ecology - Thinking in Cycles
  - Objectives, methods and scope of the scientific disciplines involved (ecosystems, energy flow, cycles)
  - Basic principles of resource protection (water, soil, air)
- 3 Environmental Management
  - Utilization of agricultural and forestry resources
  - Nature conservation and landscape protection
  - Freshwater supply and waste water treatment
  - Energy supply and consumption
  - Waste management
  - Land use and project planning
  - Management of urban environment and industries
- 4 Environmental Policy: Objectives and Regulatory Instruments; Environmental Management Tools and their Administrative Implementation
  - Environmental law
  - Environmental planning
  - Environmental economy
  - Environmental impact and risk assessment
  - Environmental information systems
  - Environmental auditing
  - Environmental education
  - Strategies for the establishment of environmental admin-

- 6 **Elective Course Specialization**  
Participants are invited to select an elective among the following:
- Climate change and atmospheric pollution
  - Problems of freshwater supply and waste water treatment
  - Soil management
  - Tropical forestry
  - Conservation of biodiversity
  - Management of National Parks and Biosphere Reserves
  - Cleaner industrial production
  - Waste treatment, problems and processes
  - Environmental impact and risk assessment
  - Energy policy and environmental protection
- 7 **Multi-disciplinary Seminars on Global Issues, e.g.**
- Climate change
  - Conservation of biological diversity
  - Sustainable agriculture
  - Protection of freshwater resources
  - Protection of forests
  - World population and environmental carrying capacity

|           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Paper     | <p>Under the aspects of problem analyzing and solving participants are required to carry out a study dealing with an environmental topic specific to their country. The topic chosen has to be embedded in the above-mentioned subject areas and to be of global future significance.</p> <p>Participants are recommended to bring the necessary statistical data and any other source material with them to Dresden.</p>                                                                                                                                                                                                                                                          |
| at Groups | <p>Open to staff of public administrations and the business sector responsible for tasks in environmental protection, planning and management, with a minimum qualification of a first university degree (e.g. B.A., B.Sc.)</p> <p>Further criteria for selection of candidates:</p> <ul style="list-style-type: none"> <li>• official presentation by a UNEP - member state</li> <li>• age, normally between 25 and 45 years</li> <li>• good health</li> <li>• geographical distribution by region</li> </ul>                                                                                                                                                                     |
| atives    | <p>Participants acquire the ability to develop interdisciplinary strategies of final solutions and to take appropriate measures for a preventive and controlling protection of the environment, where ecological, socio-economic and cultural aspects are taken into account. The course is designed to prepare the participants for their task of planning, coordination and management of the environment within ministries and agencies enabling them to actively support the ecologically sound and sustainable development of their countries.</p>                                                                                                                            |
| ships     | <p>18 to 22 fellowships will be awarded by the International Steering Committee of the course.</p> <p>Each fellowship includes:</p> <ul style="list-style-type: none"> <li>• Non-reroutable, economy air return ticket from a major airport in the country of residence to Dresden; PTA will be sent to successful candidates.</li> <li>• Accommodation in single study bedroom with private WC, shower, cooking area with cooking utensils and refrigerator</li> <li>• Health insurance for the duration of the course</li> <li>• Registration and tuition fees for the course</li> <li>• Monthly stipend of DM 900.--, sufficient to cover all basic living expenses.</li> </ul> |

Dresden University of Technology  
UNEP/UNESCO Course  
Doz. Dr. Heiner Kluge  
Parkstrasse 5, Room 15-15  
D-01069 Dresden  
Federal Republic of Germany

Fax.: (49-351) 495 1215  
Tel.: (49-351) 477 9911  
477 9924

with a copy to Chief, EETU  
United Nations Environment Programme  
P.O. Box 30552  
Nairobi, Kenya

Fax.: (254-2) 226 890  
Tel.: (254-2) 62 34 69

**EAEME**

European Association for Environmental Management Education  
Sponsored and supported financially by the European Communities

# EUROPEAN MASTER IN ENVIRONMENTAL MANAGEMENT

OCTOBER 1994 - OCTOBER 1995



## THE PURPOSE OF EAEME

EAEME is an association of European Universities founded in 1991 with the support of the European Communities. It is registered in Varese, Italy.

Both EC and national legislations have for sometime become increasingly concerned with environmental issues, with major implications for all aspects of the economy. This trend will accelerate rapidly in the future as environmental considerations become integrated in all policy areas. There is an urgent requirement to provide industry, commerce and public authorities with effective tools to address these important challenges.

The EAEME has been established to meet this educational requirement by promoting a range of activities which are focused around a new European Master Degree in environmental management. A unique feature of these developments not addressed by current courses is their pan-European character. Students are trained in understanding the workings of EC legislation and policies together with their implementation, and in particular their interrelationships with corresponding national laws and policies. Considerable prominence is given to geographical and cultural influences which affect the priorities for different environmental issues within Europe; this covers the EC, EFTA and the emerging democracies of Central and Eastern Europe. A key feature of the Master's course is the mobility of students and teachers between participating institutions.

The actions of the Association are directed towards the objective of the European Parliament of providing appropriate training in environmental management to public administrators and managers in the private sector as well as reinforcing the links between such training and appropriate research. The Association has been founded by academic institutions which all have substantial experience in post-graduate environmental education. It is open to the participation of other European institutions for higher learning.

## THE MASTER PROGRAMME

The objective of this programme is to train the participants in the management of environmental, interdisciplinary problems of transnational and pan-european character.

|                                                                                                  |          |
|--------------------------------------------------------------------------------------------------|----------|
| PREPARATORY MODULE (PM)<br>location: a Member University                                         | 4 weeks  |
| BASIC MODULE (BM)<br>location: a Member University                                               | 10 weeks |
| APPLICATION MODULE (AM)<br>location: a Member University                                         | 10 weeks |
| RESEARCH PROJECT<br>location: a counterpart organization<br>and/or supervising Member University | 20 weeks |
| total: 30 weeks                                                                                  |          |
| FINAL EXAMINATION<br>location: place of EAEME association                                        | 3 days   |

## SECRETARIAT OF EAEME

Viale Ippodromo, 9  
I-21100 VARESE  
ITALY

The following 4 Focal Points for the Preparatory and the Basic modules are:

French: ARLON  
English: TORINO, ATHENS  
German: TRIER

The Focal Points will be effectively activated, provided there is a sufficient number of qualified participants and an international participation

## PREPARATORY MODULE

**Objective:** to achieve a high level of understanding in the disciplines contributing to environmental management. This module is designed to complement participants' knowledge in particular disciplines where their current knowledge is insufficient.

## BASIC MODULE

**Objective:** to present environmental management as a continuous process both in the private and public sectors and to train the participants in integrating institutions, operators and methods, in a European perspective.

### Weeks 1 and 2: Environmental issues

Current important environmental issues will be reviewed, using a trans-disciplinary approach covering the phenomena, the causes, the consequences as well as the goals, the strategies and the political options for each issue.

The issues considered are both global (e.g. climate change, loss of biodiversity) and regional/local (e.g. tropospheric air pollution, pollution of natural water bodies, wastes, accidents).

Case studies will be used where appropriate, with abundant use of literature.

### Weeks 3 to 6: Environmental decision making

Environmental decision making will be taught, using a trans-disciplinary approach, with case studies where appropriate. Land use management will be given due consideration, along with pollution issues.

**Headlines:** organizing the decision making process (policy life cycle, recognizing and analysing the environmental problems, agenda building, setting the objectives, selecting the policy instruments) - negotiation procedures - policy instruments (environmental indicators, regulatory instruments, standards, fiscal and economic instruments) - principles of environmental legislation at EC and national levels.

### Weeks 7 and 8: Environmental management

For the public sector, the process of environmental policy making should be considered at the EC and national levels, but also, where appropriate at the regional and local levels.

**Headlines:** policy planning (national plans, EC action programmes), institutional aspects (competences and conflicts, principle of subsidiarity), tools for policy analysis.

Environmental policy includes also the integration of environmental concerns in policies for other sectors (agriculture, energy, industry, transport, tourism).

For the private sector, due consideration will be given to business enterprises as actors in the environmental policy arena, to corporate organization and market structures for various sectors of industry, and to decision making process in companies.

**Headlines:** business enterprises as actors in the environmental arena, tools for environmental management (audits, life cycle analysis, ecodesign, ecolabeling).

### Week 9: Implementation of environmental policy

Instruments available for enforcement will be presented and observation of compliance by local public and private organisations/groups will be examined.

Enforcement and compliance will be investigated at European level (role of the European Environment Agency).

Ex-post policy evaluation will be made at European, national and local levels.

### Week 10: Environmental Education and Communication

Case studies of communication and information strategies and techniques from enterprises and from the public sector will be presented and discussed.

For this last week, participants' contributions will be encouraged.

## APPLICATION MODULE

**Objective:** these 10 weeks are part of a 30-week period devoted to the research project and aimed at developing the understanding and managerial capabilities of the participants in various types of organization and situations in the private and the public sectors, as well as in various fields of environmental management.

**Means:** combination of case studies and of highly specialized courses related to the requirements of the research projects undertaken concurrently.

## RESEARCH PROJECT

This should have a European character about managerial issues regarding interdisciplinary and transfrontier problems related to the environment and its management in the perspective of sustainable development. It should be carried out in a Member University of EAEME and at the same time in close association with operators such as enterprises, environmental agencies and other public service research centres.

## ADMISSION

**Conditions:** a University degree. The Academic Board of EAEME will determine the equivalence of degrees from non-member universities. Proficiency in at least 2 official EC languages (certificates are required for languages other than mother tongue).

Relevant professional experience will be considered for the selection.

To ensure maximal individual supervision, the number of participants at each Focal Point is limited.

## ORGANIZATION

An assistant with postgraduate university degree and experience is full time permanently present on a full time basis during the 14 weeks of PM + BM and the 10 weeks of AM.

The week programme is scheduled so as to leave one day free for personal work.

Participation to all contact hours (lectures, seminars, field trips, laboratory, oral presentations, etc.) is compulsory for the participants. The regular numbers contact hours is 25 hrs per week.

EAEME participants have the same facilities and rights as other postgraduate students of the University hosting their Focal Point: libraries, computers, phones, faxes, photocopiers, means of transportation, etc.

## ASSESSMENT AND VALIDATION

Assessment according to credit system. The candidate must pass the Basic Module to be admitted to the Application Module and to be allowed to start his research project. Then he must pass the Application Module and present successfully his research project report to an Examination Board in order to obtain the EUROPEAN MASTER DEGREE IN ENVIRONMENTAL MANAGEMENT OF EAEME.

## FINANCIAL AID FUND

A special fund is constituted for aid to students. Sources are contributions from the Association, private donations, etc. From the fund, mobility grants may be awarded on the same basis as that of the Erasmus system. In addition a limited number of full grants are available.

## TUITION

Accepted students are required to pay an amount fee of 2500 ECU's (the first instalment being 500 ECU's) as a contribution to the financial aid fund.

## DEADLINE FOR RECEIPT OF APPLICATION FORM

Candidates are requested to use the application form contained in the brochure, which must be signed and sent, by registered mail, not later than 15 May 1994, as attested by the postmark, to: EAEME Office, Viale Ippodromo 8, I-21100 Varese, Italy.

94/95

## European Postgraduate Course in Environmental Management

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P  
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Leiden University  
Centre of Environmental Science



Free University Amsterdam  
Institute for Environmental Studies



Agricultural University Wageningen  
Centre for Environmental Studies



University of Amsterdam  
Interfaculty Department of Environmental Science

### Introduction

This brochure offers information about two postgraduate courses in environmental management, the Universitaire Beroepsopleiding Milieukunde (UBM) and the European Postgraduate Course in Environmental Management (EPCEM), both organised by the interdisciplinary departments of environmental science of the University of Amsterdam (UvA), Leiden University (RUL), the Vrije Universiteit Amsterdam (VU) and Wageningen Agricultural University (LUW).

These departments all have long-standing experience in environmental research and in interdisciplinary training of students. Since 1987 the universities cooperate in organising a one-year postgraduate course in environmental management for 35-50 Dutch graduates together, the Universitaire Beroepsopleiding Milieukunde or UBM.

In 1992 the universities started with the European Postgraduate Course in Environmental Management or EPCEM. It brought together about 30 graduates from - primarily Central and Eastern - European countries. The EPCEM was based on experiences with the above mentioned UBM. The experience with the UBM in environmental issues and its approach to environmental education was instructive in this respect.

In the academic year 1994/1995 the UBM and the EPCEM will be largely integrated into one course in environmental management for both Dutch and other (mainly Eastern, Central and Southern) European participants and will be called UBM/EPCEM. The description of the curriculum (page 4 and further) will indicate which parts of the programme will still be separate for UBM and EPCEM participants and which parts will be the same for all participants. The UBM/EPCEM universities have contacts with both national and international institutes with expert knowledge on regional environmental problems and regional environmental policy.

### Objectives

In all European countries more and more environmental managers and policy makers are needed, who have been trained in dealing with the complexities of the analysis of environmental problems and of environmental policy-making. They are supposed to operate effectively in positions in governmental departments, private enterprises, non-governmental organisations, etc. The professional practice of environmental problem-analysis and problem-solving demands an integrated and interdisciplinary approach. Disciplines that are relevant in this respect are: chemistry, technology, biology, earth sciences, agricultural sciences, public health, physical and regional planning, law, economics, social sciences, social psychology and administrative science.

The UBM/EPCEM aims at matching the academic specialist education of recently graduated scholars who aspire to a professional career in managerial and policy-making positions, with the future interdisciplinary professional practice.

The UBM/EPCEM provides its participants with knowledge and insight in the different interests and aspects which play a role in the development and evaluation of potential solutions for environmental problems. The participants will be trained in skills which will enable them to cooperate in multi-disciplinary expert teams. After completing the course they will be able to contribute to an integrated approach in environmental problem-analysis and environmental problem-solving.

Joining in with the short term priorities which are set by local and national authorities, UBM/EPCEM will focus mainly on environmental problems at the local and regional levels. Issues will be tackled which basically are of the same nature in all European countries.

### ADDRESSES

Additional information can be asked for from the UBM or the EPCEM secretariat or from an UBM/EPCEM representative in the home country.

#### Addresses, executive committee, coordinators and secretariats of the UBM/EPCEM Universities in the Netherlands:

University of Amsterdam (UvA)  
Interfaculty Department of Environmental Science/Interfacultair  
Vakgroep Milieukunde (IVAM)  
Nieuwe Prinsengracht 130, 1018 VZ AMSTERDAM.

Leiden University (RUL)  
Centre of Environmental Science, Centrum voor Milieukunde (C)  
Garenmarkt 1a, P.O. Box 9518, 2300 RA LEIDEN.

Vrije Universiteit Amsterdam (VU)  
Institute for Environmental Studies, Instituut voor  
Milieuvraagstukken (IVM)  
De Boelelaan 1115, 1081 HV AMSTERDAM.

Wageningen Agricultural University (LUW)  
Center for Environment and Climate Studies, Centrum voor Milieu  
en Klimaatstudies (CMKW)  
Diederenweg 18, P.O. Box 9101, 6700 HB WAGENINGEN.



## Curriculum

The UBM/EPCEM 1994/1995 will be one-year full-time course. It will start on August 29 for foreign participants and on August 31 for Dutch participants. The course will run until July 8 1995. The general outline is stated below:

- Introduction
- Module 1. Environmental sciences
- Module 2. Environmental policy and environmental management  
Christmas recess
- Module 3. Interdisciplinary research project
- Module 4. Internship  
Evaluation

Modules 1 and 2 constitute a period of transferring both basic and advanced environmental knowledge and of training of skills like presentation, writing policy documents, meeting skills, and decision making.

Modules 3 and 4 constitute a period of practical experience. Its main objective is to learn to cooperate in interdisciplinary teams and to use the acquired knowledge, insights and skills in a semi-professional situation.

In Module 1 Dutch and foreign participants will follow a largely separate programme, although close contacts between both groups will be organised. Module 1 will be in both Dutch and English, module 2 will be in English and module 3 and 4 will be in both Dutch and English.

The aims and content of the curriculum is specified below.

### Introduction

Location: Soest near Utrecht  
EPCEM 1 week, 29 August 1994 - 2 September 1994  
UBM 3 days, 31 August 1994 - 2 September 1994

After participants and staff members have become acquainted, the general educational objectives of UBM/EPCEM will be explained. The scope of environmental problems which are brought up during the UBM/EPCEM will be exemplified in workshops devoted to some key environmental concepts.

## Costs and Scholarships

The tuition fee for the academic year 1994/1995 is Dfl. 5,000, including the registration fee of Dfl. 100. Per participant, average (national) traveling and living expenses (including housing) during the course are estimated at Dfl. 2,500 and Dfl. 12,500 respectively. Of course, international traveling expenses from the home country to the Netherlands and back depend on the distance and the means of (public) transport.

Efforts are being made to raise funds in order to be able to grant foreign participants a waiver of the tuition fee, and to support them in covering their insurance, travelling and living expenses. Only if no other individual funding possibilities are available, Central and East European participants can apply for a scholarship from the EPCEM fund. This possibility is not available for participants from Southern Europe.

At the moment this brochure was prepared, it was not yet clear if and which possibilities there will be for financing individual participants of the 1994/1995 course from the EPCEM fund. Candidates are advised to contact the EPCEM representative in their own country or the EPCEM secretariat in Amsterdam in February 1994.

Candidates with work experience at general management level and an employers' testimonial can apply for a grant from the "Subsidiering managementtoerustingen Midden- en Oost-Europa" (subsidies for management courses for people from Central and Eastern Europe) through the EPCEM secretariat. These candidates need to have experience at general management level in one of the following sectors: government, industry, agriculture, health care, regional development, environment and energy, transport, human rights organisations, culture or research of education. These grants are available for people from the following countries: Albania, Armenia, Azerbaijan, Bulgaria, Estonia, Georgia, Hungary, Lithuania, Latvia, Moldova, Ukraine, Poland, Romania, Russia, Slovenia, Czech Republic, Slovakia and Belorussia.

### Module 1 Environmental sciences

Location: Amsterdam, Leiden and Wageningen  
(8 weeks, 8 September 1994 - 14 October 1994)  
Separate programme UBM and EPCEM

In Module 1 Dutch and foreign participants will follow a largely separate programme. In both programmes the aim of this module is to offer basic and specialist environmental knowledge. This will contribute to the interdisciplinary study of causes and potential solutions of environmental problems. In the UBM programme more attention will be paid to environmental aspects of the own disciplines; in the EPCEM programme the emphasis will be on interdisciplinary environmental science. Foreign participants will be offered basic knowledge of various relevant disciplines as well as an introduction to general concepts and methods of interdisciplinary environmental science. This is considered a prerequisite for the study of environmental problems. The Dutch participants will already have studied this in the "Introduction in Environmental Sciences", which is a condition for admittance to the course. Subsequently, all participants will individually study advanced theories and methods of their own (mono-) disciplines, in order to refresh and up-grade their expert knowledge. The programme includes group work in order to discuss and exchange the newly acquired knowledge.

### Module 2 Environmental policy and environmental management

Location: Amsterdam, Wageningen and Leiden  
(8 weeks, 17 October 1994 - 18 December 1994)  
Combined UBM and EPCEM programme

The aim of this module is to introduce a spectrum of modern tools which are indispensable for environmental policy-makers and managers. While the focus of Module 1 lies on the analysis of environmental problems, Module 2 deals with the question how environmental strategies can be designed and how these strategies can be implemented and enforced. The following related themes will be raised:

- environmental policy by governments, with attention to methods used in policy design and policy evaluation and to the implementation and enforcement of policy instruments in theory and practice.
- environmental management in industries, with attention to the possibilities and restraints of technological solutions for environmental problems.
- the integration of spatial planning and environmental policy.

These issues are dealt with during lectures, self-study assignments, group discussions, practical exercises and excursions. The newly acquired knowledge, insights and skills are practiced in working groups and case studies.

### Module 3 Interdisciplinary research project

Location: Wageningen, Leiden or Amsterdam  
(18 weeks, 9 January 1995 - 12 May 1995)

The aim of this module is the interdisciplinary analysis of a real-life environmental problem and the development of a strategy to solve the problem. The problems involved will be environmental issues, which are urgent in the Netherlands and/or in other European countries. The projects may be more oriented to either problem-analysis or to problem-solving. The results of the project will be published in team reports, which should be useful to governmental and non-governmental organisations, or other interest groups, preferably in the home country of the participants. Some projects will be oriented to the Dutch situation, other projects will be more oriented to problems in Eastern Europe. Teams of 6-8 participants of different mono-disciplinary training will carry out a project. UBM participants are allowed to join an EPCEM group. Each team will be guided by two supervisors of one of the four participating universities.

### Module 4 Internship

Location: this depends on the internship  
(8 weeks, 29 May 1995 - 1 July 1995)

The aim of this module is to train students to analyse and provide potential solutions for specific problems, as perceived by the host organisation. This may be for instance a private enterprise or consultancy firm, a non-governmental organisation or a governmental department. The internship will also provide insight into the functioning of the organisation. The assignment will be performed with limited means and within a limited time. Each participant will be requested to write an individual report. The subjects of the internships will be chosen in consultation with the participants and the host organisation and will be related to the interests of the participants.



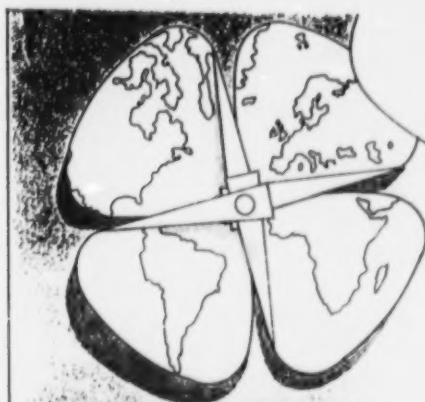
University of Twente  
Technology and  
Development Group  
Enschede  
The Netherlands



**MSM**

RVB Maastricht School of Management  
Maastricht  
The Netherlands

training  
programme



**ENERGY MANAGEMENT IN  
SMALL AND MEDIUM  
SCALE INDUSTRIES**

**10 OCT - 11 NOV '94**

**COURSE OBJECTIVES**

The objectives of this 5 week course are to enhance the management capabilities for SMI in developing countries with respect to:

- the analysis of the role of energy in production processes in relation to economic viability and environmental effects;
- the availability and acquisition of energy, and the modes of energy supply;
- the analysis of the choice of fuels, conversion equipment and machinery;
- the efficient use of energy in SMI, and energy conservation measures;
- the formulation of policy options and strategies for energy in SMI.

Sub-objectives of the course are to assist the participants with:

- identification of general SMI problems and potentials;
- communication of leadership and motivation;
- preparation of action plans for introducing energy management principles a practical framework in the participants' own work situation.

**TARGET GROUP OF COURSE PARTICIPANTS**

- managing staff involved in energy planning and management in their industries;
- policy makers from government organisations, industrial associations, and institutes involved in industrial development and energy;
- consultants who relate to the themes of the course.

The course assumes a basic understanding of engineering and economics.

The Course Administrator  
Technology and Development Group - VOK  
University of Twente  
PO Box 217  
7500 AE ENSCHEDE, The Netherlands

## **COURSE PROGRAMME**

The course programme consists of lectures, case studies, exercises, group discussions and industrial visits with respect to the following subjects:

- **management of SMI:** leadership and motivation in industrial context, developmental, social and environmental functions, human resource management, internal efficiency and competitiveness, strategic management, markets, communication and extension;
- **economic issues:** factor costs, energy costs and price structures, business opportunities and threats, budgeting, costing, financing, cost control;
- **project management:** identification and formulation, feasibility analysis, appraisal, decision making, implementation;
- **energy supply:** fuels and electricity, conversions, cogeneration, fuel substitution, renewable energy sources, technology options, costs;
- **energy assessment:** auditing, data interpretation, control, conservation opportunities, energy demand management, energy housekeeping;
- **energy policies:** policy instruments, energy substitution and conservation, energy balances, industrialisation, public and private sector, environmental and demographical factors, sector-, national-, and international policy levels, socio-economic development and energy strategies.

The approach is based on the recognition that energy management is not a separate function within a firm. Nevertheless, in the analytical phase of the management process, special attention is to be given to the specific merits and character of energy problems.

Successful strategies for energy management have to be integrated into normal business policies.

- **case studies,** for instance: saw mills, rice mills, bakeries, sugar processing, ceramic industry, palm oil industry, rubber processing, tea drying, textiles, leather, etc.
- **industrial visits,** for instance: dairy production, paper mill, brick making, waste incineration, diesel engines, electrical machinery, boiler systems, and/or power plant.

Throughout the programme, the work experiences of the course participants themselves play an important part in case studies and discussions. Each course participant is expected to give a presentation about his or her own work.

## **GENERAL INFORMATION**

### **Tuition fee**

Tuition fee amounts to Dfl. 10,000.- incl. training materials and excursions. For local sponsors in developing countries, the tuition fee amounts to Dfl. 7,500.-.

### **Living expenses**

Estimated costs of living expenses (5 weeks) are Dfl. 4,000.-.

### **Fellowships**

In the past, international organisations like the United Nations and/or its specialised agencies, the Commission of the European Community, etc. have made available fellowships for the course. For information on the application procedure you are advised to contact the representative in your country.

Those candidates under the age of forty years may apply for a fellowship (excluding travel expenses) under the Technical Assistance Programme of the Netherlands Government.

Application forms are available at the Netherlands Embassy in your country.

## POSTGRADUATE DIPLOMA AND MSc DEGREE COURSE

### SOCIO-ECONOMIC INTEGRATION FOR NATURAL RESOURCE MANAGEMENT

SIG 2.3

The formulation and implementation of plans and policies for sustainable development require information from many different disciplines. However, there may be a considerable gap between the information needs of planners and decision-makers and the professional interests of the technical specialists who gather the data. The courses in Socio-Economics for Natural Resource Management (formerly Survey Integration for Resource Development) are therefore designed to bring together the parties involved in this process.

**itc**

International Institute for Aerospace Survey and Earth Sciences

## OBJECTIVES

The objective of the SIG courses is to provide participants with a theoretical background and practical training in the design, management, and utilization of multidisciplinary investigations used in regional and rural development.

Upon completion of the course, participants should be able to:

- handle multidisciplinary investigations,
- assist in identifying natural resource potentials and constraints;
- determine information needs,
- implement methods of socio-economic data collection;
- use geographical information in planning and decision making;
- advise planners and policy-makers on socio-economic information for natural resource management.

To achieve these objectives, participants will:

- obtain theoretical knowledge through lectures and literature study;
- develop practical skills in exercises;
- use multidisciplinary approaches in team-work;
- prepare for and execute fieldwork;
- write a final report (SIG 3) or an MSc thesis (SIG 2)

## TARGET GROUPS

The course is designed for:

mid-career planning and development specialists in the earth and/or agricultural sciences or the social sciences, with an orientation towards natural resource development.

## ADMISSION REQUIREMENTS

For admission to the SIG.3 and SIG 2 courses, applicants should hold a BSc degree from a recognized university, in one of the earth, agricultural or social sciences, or be able to demonstrate an equivalent level of education in one of these disciplines. Preferably they should also have some years of working experience.

Applicants for the SIG.2 course should have gained their BSc degree with good marks. Participants of the SIG.2 course should attain an average weighted mark of at least 75 in the first part of the course (7 months) and show an aptitude for independent study, in order to be admitted to the second part (11 months).

Interpretation of aerial photographs and satellite images is an important part of the course curriculum. Candidates should therefore have good stereoscopic vision as well as normal colour vision. Proficiency in the English language (minimum requirement Test of English as a Foreign Language (TOEFL) 500 or British Council test 6.0) is also required.



## COURSE STRUCTURE

SIG.2 and SIG.3

|                             |                                                           |                 |                        |                 |
|-----------------------------|-----------------------------------------------------------|-----------------|------------------------|-----------------|
| Natural resource management | Basic course module in socio-economic information for NRM | Land evaluation | Remote sensing and GIS | Special surveys |
| Aug                         | Sep-Nov                                                   | Dec             | Jan-Feb                | Mar             |

SIG.3



Mar Apr May

SIG.2

|                                                                                                          |                   |                |
|----------------------------------------------------------------------------------------------------------|-------------------|----------------|
| Specialization programme:<br>1. Land evaluation and land use planning<br>2. Rural energy and development | Fieldwork project | Thesis writing |
|----------------------------------------------------------------------------------------------------------|-------------------|----------------|

Mar Apr May Jun

Jul - Nov

Dec - Jan

## COURSE OVERVIEW: DEPARTMENT OF LAND RESOURCE AND URBAN SCIENCES

| DEPARTMENT OF LAND RESOURCE AND URBAN SCIENCES (Dept. 8)                   |                           |               |                    |                                    |
|----------------------------------------------------------------------------|---------------------------|---------------|--------------------|------------------------------------|
| Title                                                                      | Level and award           | Course code   | Duration in months | Starting date each year (Tuesdays) |
| <b>SOILS</b>                                                               |                           |               |                    |                                    |
| Soil Survey                                                                | postgraduate diploma      | SOL.3         | 11                 | August - 1st week                  |
|                                                                            | MSc degree                | SOL.2         | 18                 | August - 1st week                  |
| <b>FORESTRY</b>                                                            |                           |               |                    |                                    |
| Forest Survey                                                              | postgraduate diploma      | FOR.3         | 11                 | August - 1st week                  |
|                                                                            | MSc degree                | FOR.2         | 18                 | August - 1st week                  |
| Forestry for Rural Development                                             | postgraduate diploma      | FRD.3         | 11                 | August - 1st week                  |
| <b>VEGETATION AND AGRICULTURE</b>                                          |                           |               |                    |                                    |
| Rural and Land Ecology Survey                                              | postgraduate diploma      | RLE.3         | 11                 | August - 1st week                  |
|                                                                            | MSc degree                | RLE.2         | 18                 | August - 1st week                  |
| Environmental Systems Analysis and Monitoring                              | MSc degree                | RLE.3 + ESM.2 | 18                 | August - 1st week                  |
| <b>SOCIAL ECONOMICS OF NATURAL RESOURCE MANAGEMENT</b>                     |                           |               |                    |                                    |
| Survey Integration                                                         | postgraduate diploma      | SIG.3         | 10                 | August - 1st week                  |
|                                                                            | MSc degree                | SIG.2         | 18                 | August - 1st week                  |
| Information Management for Natural Resource Development                    | certificate of attendance | SIG.5         | 1                  | September - 1st week               |
| <b>URBAN SURVEY AND HUMAN SETTLEMENT ANALYSIS</b>                          |                           |               |                    |                                    |
| Urban Survey and Human Settlement Analysis                                 | postgraduate diploma      | USH.3         | 10                 | September - 1st week               |
|                                                                            | MSc degree                | USH.2         | 21                 | September - 1st week               |
| <b>INTERDISCIPLINARY COURSES</b>                                           |                           |               |                    |                                    |
| Remote Sensing Applications for Land Resource Survey and Rural Development | postgraduate certificate  | RSL.5         | 2                  | January - 1st week                 |
| Geoinformation Systems for Natural Resource Management                     | postgraduate diploma      | GIR.3         | 11                 | October - 1st week                 |
|                                                                            | MSc degree                | GIR.2         | 21                 | October - 1st week                 |
| Geoinformation Systems for Urban Applications                              | postgraduate diploma      | GIU.3         | 11                 | October - 1st week                 |
|                                                                            | MSc degree                | GIU.2         | 21                 | October - 1st week                 |





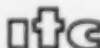
RLE.3 + ESM.2

## MSc DEGREE COURSE

# ENVIRONMENTAL SYSTEMS ANALYSIS AND MONITORING 1994



With the present public and scientific concern in environmental matters, there is an increasing need for environmental expertise. A growing number of scientists, planners and engineers are nowadays carrying out scientific, educational or administrative tasks in relation with different environmental problems.



International Institute for Aerospace Survey and Earth Sciences

## OBJECTIVES

To increase the participants' expertise in: (i) understanding the complexity of environmental issues, (ii) the application of remote sensing and GIS for monitoring and analysis of environmental changes and impacts, and (iii) the formulation and design of protection measures for environmental problems.

Upon completion of the course, participants should be able to:

- (i) define environmental systems and analyze their underlying ecological, biophysical, social and economic structures and interactions;
- (ii) apply aerospace survey techniques for monitoring and study the processes of environmental changes;
- (iii) to use geographic information systems (GIS) and modelling tools for environmental data acquisition, analysis and management;
- (iv) to apply quantitative decision support methods and techniques necessary for the implementation of environmental impact and risk assessments.

The course is designed for persons pursuing training or a top-up course in environmental sciences. They also require training in the application of remote sensing, GIS and decision support techniques for environmental monitoring and assessment. The course will primarily address mid-career professionals from developing, Eastern European but also developed countries working in:

- environmental agencies/councils;
- sectorial government departments (e.g., agriculture, public works, forestry, fisheries, town and country planning);
- projects, as officers responsible for Environmental Impact Assessment;
- colleges and universities (e.g., the environmental sciences or applied ecology and engineering departments);
- non-governmental organizations involved in environmental issues.

ITC Student Registration Office  
Attn. Ms. A. Scheggetman  
P.O. Box 6  
7500 AA Enschede  
The Netherlands

Phone: +31-53-874 205  
Fax: +31-53-874 238  
Telex: 44525 itc nl

## COURSE STRUCTURE AND CONTENTS

The MSc degree course in Environmental Systems Analysis and Monitoring consists of two parts. Participants first enroll in an ITC postgraduate course of the Department of Land Resource and Urban Sciences, by preference the RLE.3 postgraduate course in the Division of Vegetation and Socio-cultural Science or the SOL.3 postgraduate course in the Division of Soil Science.

The Rural Land Ecology postgraduate course (RLE.3) contains the following four modules:

- |                               |         |
|-------------------------------|---------|
| 1 Natural Resource Management | 3 wks.  |
| 2 Rural Land Ecology          | 13 wks. |
| 3 Land Evaluation             | 4 wks.  |
| 4 Remote Sensing & GIS        | 8 wks.  |

The 12-month ESM.2 course consists of three modules with the following course blocks for participants from the LARUS department:

- |                                                                            |         |
|----------------------------------------------------------------------------|---------|
| 1 Common Base module                                                       |         |
| Analysis of Environmental Issues                                           | 2 wks.  |
| Environmental Systems Analysis                                             | 2 wks.  |
| Environmental Monitoring                                                   | 2 wks.  |
| Environmental Economics                                                    | 2 wks.  |
| 2 Central Core Module                                                      |         |
| Decision Support Systems                                                   | 2 wks.  |
| Environmental Impact Assessment                                            | 2 wks.  |
| Bio-monitoring for Natural Resource Management & Conservation (sub-module) | 8 wks.  |
| 3 MSc Research module                                                      |         |
| Script                                                                     | 4 wks.  |
| Fieldwork and MSc thesis                                                   | 28 wks. |



## ADMISSION REQUIREMENTS AND APPLICATIONS

For admission to the first part of the course (i.e. RLE.3 or SOL.3), applicants should hold a BSc degree from a recognized university in biology, geography, agricultural or engineering sciences with good marks, or be able to demonstrate an equivalent level of education in one of these disciplines. Preferably they should also have some years of working experience.

In order to be admitted to the second part (ESM.2), participants should attain an average weighted mark of at least 75 in the first part of the course and show an aptitude for independent study.

## FELLOWSHIPS

For course applicants from selected developing countries, the Netherlands Government awards some fellowships under the Netherlands Fellowship Programme (NFP). In accordance with Netherlands Government policy, women are particularly encouraged to apply. NFP fellowship applications should be submitted through the appropriate organization in the candidate's home country and with the approval of the candidate's employer, to reach the Royal Netherlands Embassy at least four months before the starting date of the course.

Since the number of NFP fellowships is rather limited, course applicants are advised to try to obtain funding from other donor agencies. Details and addresses of sponsors in the applicant's country can be obtained from the ITC Student Registration Office. Please note that ITC has no funds of its own, neither does ITC have any influence on those organizations that grant fellowships.



7th

## INTERNATIONAL COURSE ON THE DESIGN OF COMMUNITY FORESTRY

Wageningen/the Netherlands  
September 4 - December 9, 1994

IAC

INTERNATIONAL AGRICULTURAL CENTRE



Environmental degradation, rural poverty, food shortages, wood scarcities and heightened concern for energy supplies have all contributed to an increased awareness of the importance of forests and trees for the well-being of rural people. With the growing impact of deforestation and land deterioration, new approaches are called for. Community forestry or tree growing by rural people is one of the most promising production strategies. The FAO Tropical Forestry Action Plan that provides a global framework for international efforts, recognizes this by giving special attention to themes such as "forestry in land use", "fuel wood and energy" and "strengthening of institutions".

The concept of community forestry refers to those activities that are related to the integration of trees, their use and their place in a rural environment. Community forestry implies an active participation of the population, thus stimulating village development and allowing self-management of natural resources. These activities are at the interface between forestry and agriculture/livestock production and help increase the productivity of natural resources whilst maintaining ecological sustainability. Agricultural and forest services now face an important task in encouraging and supporting rural people to implement such activities. Community forestry, however, is not merely a technical issue; it involves a wider vision, taking into account problems in the field of socio-economic reality, of participative planning and of local government support. In response to a growing need for comprehensive approaches in designing community forestry programmes and projects, a seventh international course on the design of community forestry will be organized in the Netherlands in 1994.

The course aims to strengthen national capacities to design, implement and evaluate community forestry activities within the framework of rural development. After completion of the course the participants will have acquired adequate

#### Knowledge on:

1. approaches and methods to conceptualize, plan, implement, and evaluate programmes and projects in the field of community forestry;
2. new developments, experiences and approaches in community forestry and in rural development projects in the field of community forestry;

#### Skills to:

3. design community forestry programmes or rural development programmes with an important forestry component at national or provincial level, taking into account social, economic and institutional as well as technical and ecological aspects;
4. analyse the situation of different parties involved in community forestry programmes;

#### Motivation to:

5. improve communication between government and non-government organizations, as well as among professionals with different backgrounds, dealing with community forestry programmes;
6. enhance, by means of a participatory approach, institutional developments of community forestry at community level.

### WHO CAN PARTICIPATE

The course is designed for programme officers, who are engaged in policy formulation or in the design, management, implementation and evaluation of rural development programmes, directed at the strengthening of community forestry activities at the regional or national level.

The course is open to officers of both non-government and government organizations. Application by women is strongly encouraged.

Because of the set-up of the course programme, preference will be given to teams of two or three participants per country with different educational and professional backgrounds.

### ADDRESS

International Agricultural Centre (IAC)

P.O. Box 68

6700 AB Wageningen

the Netherlands

Lawickse Allee 11

Telegrams

Telephone

Telex

Telefax

INTAS

+ 31 8370 90111

45888 INTAS NL

+ 31 8370 18552

## COURSE PROGRAMME

Within the course programme the concept of community forestry is placed in the broader context of rural development, needed to design and implement community forestry programmes and projects. The course has three major areas of concern: project planning, community organization and integration of forestry activities in sustainable land use.

The curriculum of the course, organized in three information blocks, two design blocks and one fieldwork block, can be summarized as follows:

- A. Introduction and analysis of participants' environments:
  - framework of the course;
  - presentations by participants;
  - analysis of role and potential of community forestry in participants' environment;
  - design of community forestry programme in individual target area.
- B. Community forestry, use and management of land and trees:
  - dimensions of forest/trees management systems;
  - major components of tree/forest systems: role of trees at village level; energy from biomass; forest/trees resource management practices; social dimensions and tenure conditions in forest and land use;
  - diagnostic tools: evaluation methods for sustainable land use; assessment of biomass production and forestry energy balances on village lands.
- C. Community forestry and analysis of parties involved:
  - introduction to Objective Oriented Project Planning (OOPPI);
  - analysis of problems and potential of parties involved in target area: identification of target categories: farm-household system analysis; gender impact analysis; community organization; institutional and policy environment; selection and participation of target groups.
- D. Collection and use of data (fieldwork):
  - collection of socio-economic data related to parties involved: introduction to Rapid Rural Appraisal methods;
  - fieldwork: interviews and collection of relevant data in study area;
  - processing and analysis of collected data through OOPPI methodology;
  - formulation and debriefing of results: fieldwork report.
- E. Planning and policy issues with regard to community forestry programmes:
  - policy instruments and approaches;
  - planning at community level; approaches strategies and tools; planning phases, scale and precision; traditions and mechanisms;
  - Extension: organizational and technical-methodological aspects in the context of local level planning;
  - organizational sustainability.
- F. Design of community forestry programmes:
  - start of regional group work; presentations of individual task papers and selection;
  - selection of objectives for community forestry programmes in target area;
  - project planning matrix;
  - mobilization of project resources; budgeting;
  - financial and economic considerations;
  - reporting techniques for task paper; write-up of task paper;
  - training in presentation skills supported by use of video.
- G. Presentation and evaluation:
  - presentation of task paper;
  - reflection on implication of lessons learnt for own work environment;
  - evaluation of the course.

Application should be made to the Director of the International Agricultural Centre, P.O. Box 88, 6700 AB Wageningen, the Netherlands. Applicants should submit:

- the enclosed form, duly completed; and
- a certificate of proficiency in the English language issued by a recognized organization e.g. British Council (for applicants from non-English speaking countries only).

The Supervisory Board of the course will only consider fully documented applications which have been received BEFORE June 1, 1994, and will inform applicants about its decision shortly after that date. The number of participants will be limited to 24. Admission to the course is on competitive basis. Places will be offered to suitably qualified candidates subject to financial support being obtained.

## FELLOWSHIPS

Participants are usually financially supported by their governments, their employers or by non-governmental organizations, by externally financed projects or by international fellowship granting organizations such as:

- the Netherlands Government;
- UN agencies (e.g. FAO, UNDP, UNESCO);
- the European Communities (European Development Fund);
- the World Bank; or
- other multilateral and bilateral donors.

For this course fellowships are available from the Netherlands Government in the framework of the Netherlands programme of development co-operation with developing countries.

Applicants for a Netherlands Government fellowship should submit their application to the Netherlands Diplomatic Representative (Embassy/Consulate) in their home country. Details about the procedure to be followed may be obtained from the Netherlands Diplomatic Representative.

Applicants for a fellowship from organizations other than the Netherlands Government should approach the local representative or delegate of the organization concerned, usually through their national government.

Candidates applying for a fellowship should bear in mind that official procedures require several months. It is therefore advisable to make a request for a fellowship as early as possible.



IAC's programme of regular international courses is as follows:

| COURSE                                            | PERIOD             | DURATION  | CLOSING DATE FOR APPLICATION |
|---------------------------------------------------|--------------------|-----------|------------------------------|
| - Data Handling for Tropical Fisheries Management | January-February   | 6 weeks   | November 15                  |
| - Food Science and Nutrition                      | January-June       | 3 months  | September 15                 |
| - Applied Plant Breeding                          | March-June         | 14 months | December 1                   |
| - Potato Production, Storage and Seed Technology  | April-July         | 3 months  | January 10                   |
| - Integrated Pest Management                      | March-July         | 14 months | January 1                    |
| - Seed Production and Seed Technology             | April-July         | 3 months  | January 5                    |
| - Ghanaian Crop Production                        | April-May          | 4 weeks   | January 15                   |
| - Plais de Pommers de Tiers                       | June               | 3 weeks   | March 1                      |
| - Rural Extension                                 | June-July          | 1 month   | March 20                     |
| - Associated courses:                             |                    |           |                              |
| • Training for Trainers                           | July               | 2 weeks   |                              |
| • Extension Management                            | July               | 2 weeks   |                              |
| • Research Extension                              | July               | 2 weeks   |                              |
| • Language                                        |                    |           |                              |
| - Food Processing                                 | August-November    | 3 months  | May 15                       |
| - Vegetable Production                            | August-November    | 3 months  | May 1                        |
| - Soil Fertility Management                       | August-October     | 8 weeks   | May 15                       |
| - Dairy Farming in Rural Development              | August-November    | 3 months  | May 1                        |
| - Design of Community Forestry                    | September-December | 10 months | June 1                       |
| - Food and Nutrition Programme Management         | October-November   | 8 weeks   | August 1                     |

The courses are given in the English language, with the exception of the Course on Rural Extension which is given in English and French, and the course 'Plais de Pommers de Tiers' which is given in French. Further information and more detailed brochures on these courses and other training services are available on request.

## GENERAL INFORMATION ON OTHER INTERNATIONAL TRAINING PROGRAMMES IN THE NETHERLANDS

In addition to the International Agricultural Centre there are five other centres that offer agricultural courses of relevance to personnel from tropical and sub-tropical regions:

- Lelystad International Agricultural College, P.O. Box 1, 1400 AA Deventer: Tropical Animal Production, Farm Mechanization, Rural Extension and Teaching, Women Extension Workers and Agriculture (6-10 months).
- Bovenveerd College (International Training Centre on Animal Husbandry and Milking Technology), P.O. Box 64, 1770 AB Bovenveerd.
- Food Technology: Pig Husbandry, Animal Feed Production, other courses (6-9 months).
- Agricultural University, P.O. Box 433, 6700 AB Wageningen: M.Sc. Programmes (17 months): Agricultural Economics and Marketing, Agricultural Engineering, Animal Science, Aquaculture, Botany, Crop Science, Biological Agriculture, Environmental Science, Geographic Information Systems, Management of Agricultural Knowledge Systems, Soil and Water, Tropical Forestry.
- Dairy Training Centre (Polderland), P.O. Box 55, 6802 EJ Oudekerk.
- Dairy Husbandry and Milk Processing (6 months), Modern Dairy Farm Management (6 months).
- International Institute for Land Reclamation and Improvement (ILRI), P.O. Box 65, 6700 AB Wageningen: Land Drainage (6 months).

## INTERNATIONAL TRAINING PROGRAMME ON ENVIRONMENTAL TECHNOLOGY AND SUSTAINABLE LAND USE

Wageningen, the Netherlands



International Agricultural Centre (IAC)  
Wageningen

### CO-OPERATING INSTITUTIONS

Wageningen Agricultural University (WAO)  
Royal Tropical Institute (RIT), Amsterdam  
Vrije Universiteit Amsterdam (VUA)  
Centre for Environmental Science (CML), Leiden University  
ETC Consultants for Development Programmes, Leiden

### INTRODUCTION

A wide variety of environmental problems are facing the developing world today. Among them are deforestation, desertification, loss of biological diversity, decline of marine resources, industrial pollution and urban waste. These problems involve many different types of ecosystems, many different human activities and many different levels of effects and causes. Moreover, many different social mechanisms may drive these environmental problems, having, however, also the potential to become tools for solutions. This complexity and variety poses difficulties for cost-effective and coherent research and policy making.

Before it makes sense to start analyzing the different elements and aspects of an environmental problem, it is necessary to somehow come to grips with the problem as a whole: its impacts, its causes and its possible solutions. This grip on the whole is also crucial for policy making, all too often, partial solutions have proven to be no solutions at all. In order to reach this holistic aim, it is necessary to have an overall methodology, a line of thinking that can integrate all relevant disciplines and points of view.

Such an overall line of thinking should be applicable to all environmental problems. It then provides a common ground for researchers, research planners, programme designers, policy makers and decision makers concerned with environmental issues.

Since the UNCED conference in Rio in 1992, there is a global awareness that concepts such as sustainability, carrying capacity, global equity, good governance and the management of common resources are indeed at the heart of the environmental problem field. Moreover, science has developed integrated methodologies such as environmental impact assessment, land evaluation, life cycle analysis, cost-benefit analysis and 'progressive contextualization' with regard to the causes of environmental problems. Questions addressed by the course are: 'What are the linkages between these concepts and tools? What is their position and use in the greater whole? And most important of all: How can all these different concepts and tools, including appropriate policies, be put to work towards balanced solutions of concrete, down-to-earth environmental problems?'

The overall training programme will have a focus on two main themes in relation to environmental issues in the use and management of natural resources: appropriate policy development as well as technology development.

Within these two themes, separate short courses of two weeks each will be organized on different subjects. The courses are specifically oriented to senior policy and management staff of governmental and non-governmental development and research organizations as well as donor agencies. In 1994/95 the following courses are scheduled:

#### Appropriate policy development

*Environmental Problem Analysis and Decision Making* (in co-operation with the Centre of Environmental Science of Leiden University); Dates: October 1994 and 1995

*Gender in Policy Development for Sustainable Land Use* (in co-operation with ETC Consultants for Development Programmes at Leiden); Dates: November 1994 and 1995

*Design of Soil and Water Conservation Programmes under Sub-humid and Semi-arid Conditions* (in co-operation with the Centre of Development Co-operation Services/Vrije Universiteit Amsterdam and the Royal Tropical Institute, at Amsterdam); Dates: November 1994 and 1995

#### Appropriate technology development

*Assessable and low-cost treatment of wastes and waste-waters* (in co-operation with the Department of Environmental Technology of the Wageningen Agricultural University); Dates: March 1995 and 1996



**Venue, duration and cost**

The courses will be organized at the International Agricultural Centre (IAC), Wageningen, the Netherlands. Tuition fees for each course of two weeks are approximately US\$ 2500. Board and lodging will be at the Wageningen International Conference Centre (WICC-IAC); neither board/lodging and other personal expenses (approx. US\$ 1500) nor travel cost are included in the tuition fee.

**WHO CAN PARTICIPATE?**

The course aims at senior officials and senior scientists from governmental and non-governmental research and development organizations, who can build on a relatively large stock of personal experiences in dealing with environmental problems. There is no restriction with respect to the field of work (land management, nature protection, pollution abatement, fisheries etc.). The course holds a special relevance for all those who are involved in matching practical field and programme activities with overall environmental policies.

**REQUIREMENTS FOR ADMISSION**

Candidates should meet the following requirements:

- relevant professional experience (as policy makers, managers, researchers or senior technicians) in NGOs, government or donor agencies, working at policy or project level on environmental issues;
- academic or any other comparable degree, preference will be given to those with at least an MSc degree;
- professional position with tasks related to the subject of the course and through which dissemination of the acquired knowledge can be expected;
- competence in the English language.

**FELLOWSHIPS**

Participants are usually financially supported by their employers or by governmental or non-governmental organizations, through national or international fellowship granting organizations such as:

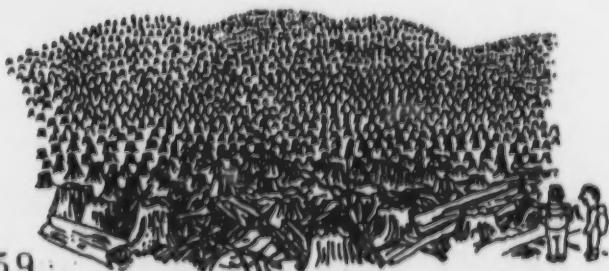
- externally financed projects
- UN agencies (e.g. FAO, UNDP, UNESCO);
- the European Communities (European Development Fund);
- the World Bank; or
- other multilateral and bilateral donors.

Applicants for a fellowship from the above-mentioned organizations should approach the local representative or delegate of the organization concerned, usually through their national government.

Candidates applying for a fellowship should bear in mind that official procedures require several months. It is therefore advisable to make a request for a fellowship as early as possible.

**ADDRESS**

International Agricultural Centre (IAC)  
P.O. Box 88  
6700 AB Wageningen  
the Netherlands  
Lewickse Allee 11  
Telegrams INTAS  
Telephone +31-8370-90111  
Telex 45888 INTAS NL  
Telefax +31-8370-18552  
E-Mail IAC @ IAC AGRO NL





ACADEMIA ISTROPOLITANA BRATISLAVA  
INSTITUTE OF ADVANCED STUDIES



## ENVIRONMENTAL PLANNING AND MANAGEMENT

### OBJECTIVES OF THE PROGRAMME

In the past, development in Central Europe took place without regard for its environmental impact. There was no concept of planned development or the responsible use of resources, causing an untold amount of damage and permanent harm to the environment. To end these destructive practices, it is now imperative to instruct people in the basic concepts of environmental planning and management. This programme is designed to integrate the knowledge of Western and Central Europe, and to work within the goals of the EU to improve the environment throughout Central Europe.

The goal of this programme is to prepare highly qualified environmental planners and managers for government ministries, administration, regional environmental agencies, universities, industry, policy, and research institutions with a deep theoretical background oriented towards the requirements of environmental protection, and the ability to communicate and collaborate with partners in the EU.

After completing the programme, students will be more qualified to help solve the complex, interdependent problems of environmental policy and management in the Central and Eastern European region. Graduates will be able to formulate optimal environmental policy by considering economic effects and legal practices abroad.

The programme is aimed mainly at ecologists, geoscientists, urban planners, environmental engineers, and lawyers, and economists who intend to specialize in environmental planning and management.

### ADDRESS

Academia Istropolitana  
P.O.Box 92  
Hanulova 5/b  
840 02 Bratislava 42  
Slovak Republic  
phone: +42/7/785 871  
fax: +42/7/785 341  
e-mail: [envir@acadistr.sk](mailto:envir@acadistr.sk)

# DESCRIPTION OF THE COURSES

The Environmental Planning and Management programme is an one-year postgraduate course designed on an interdisciplinary level and composed of lectures, seminars, discussion courses, practical work, and field trips.

The programme is divided into three trimesters. The first trimester begins with a preparatory English course, which emphasizes the terms of natural, social and environmental sciences. The introductory section reviews basic knowledge of ecology, global environmental problems and environmental issues in Central Europe, and then poses fundamental questions of environmental philosophy, politics and ethics, economic and legal aspects of environmental policy.

The second trimester includes courses in environmental engineering, landscape management, remote sensing, GIS, and environmental pollution monitoring.

The third trimester is devoted to solving practical problems in cultural and natural heritage conservation, EIA, environmental policy and decision-making procedures. In addition, students are engaged in short interdisciplinary research projects relating to environmental policy and management. Students present their project results during a seminar at the end of the course.

Students receive a certificate upon completion of the programme. Academic and professional recognition is determined by the host country's institution.

Because environmental management is a supra-national responsibility, the programme is inherently European in scope. The teachers represent above all the spectrum of European expertise and experience in this subject. High academic standards are maintained by the participation of lecturers who are leaders in the environmental field.

This programme fosters continued practical cooperation between the participating institutions by establishing a forum for discussing methods in environmental planning and management. In addition, the participation of researchers from Western European major research and educational institutions contributes to better understanding and cooperation between these institutions and those in the Slovak Republic.

The programme is designed in collaboration with the Technical University in Vienna, Austria, the University of Ghent, Belgium, the European University Institute in Florence, Italy, Manchester Metropolitan University, England, Environmental Law Institute, USA, and the University of Waterloo, Canada, Charles University, Czech Republic. Some lecturers are from participating universities.

Other lecturers for the programme are chosen from among leading European and North American specialists. Each of them is involved in practical work or in research in their field.

## GENERAL STUDIES 85 hours /

### CURRICULUM

Environmental Philosophy,  
Politics and Ethics  
Global Environmental Problems  
Environmental Issues  
in Central Europe  
General Ecology  
Energy and the Environment

## APPLIED COURSES 210 hours /

Environmental Economic  
Environmental Law  
Statistics in Environmental  
Studies  
Environmental Information  
Systems  
Environmental Remote Sensing  
Environmental Monitoring  
Environmental Engineering  
- Air Quality Management  
- Water Quality Management  
- Soil Quality Management  
- Solid Waste Management  
Landscape Management

## SPECIALIZED COURSES 160 hours /

Natural Heritage Conservation  
Cultural Heritage  
Conservation  
Urban Environmental Issues  
Environmental Impact  
Assessment  
Land-use Planning  
Sustainable Development  
- Regional Development  
- Environmental Prognoses  
Environmental Policy

FIELD VISITS  
ONE-WEEK EXCURSION  
SEMINARS  
INDIVIDUAL STUDY

## CONDITIONS OF ADMISSION

For each academic year, the programme admits up to 20 graduates, holders of university degrees in environmentally oriented disciplines. Candidates from related fields may enroll upon the advice of the Scientific Council of Academia Istropolitana.

Application forms may be obtained from Academia Istropolitana. Completed applications should reach the Institute by 1 June.

## LANGUAGE

Courses and lectures are given in English. Therefore, a thorough knowledge of English is necessary, and will be ensured by participation in a preparatory English course.

## FEES AND GRANTS

The budget for studying at the Institute for one academic year will be decided during April. While tuition is free of charge, and there are no academic fees, living expenses are approximately 100 US dollars per month. A limited number of scholarships will be available, but applicants are urged to seek funding from their home country institutions.

# MINING AND THE ENVIRONMENT

**International Training Programme in Luleå, Sweden**

**September 12 – October 7, 1994**



**BITS**

SWEDISH BOARD FOR INVESTMENT  
AND TECHNICAL SUPPORT

## — TRAINING OBJECTIVES —

The objectives of the course are:

- To deepen and broaden the participants' knowledge of the mining industry's environmental impact.
- To demonstrate modern technologies and efficient methods compatible with both profitability demands and environmental considerations.
- To increase the understanding of an ecological and recycling approach in engineering.
- To stimulate and support the participants in pursuing environmental issues in their home organizations.
- To contribute to a general increase of the environmental awareness of the international mining industry.

## — PARTICIPATION —

The candidate should hold an academical degree at least equivalent to a B.Sc. in mining engineering or other relevant subject and have more than five years working experience in a top or middle management position.

In addition to this, applications from qualified female candidates are especially welcome in order to encourage women active in the traditionally male dominant mining industry.

Only candidates officially nominated by the proper authority and in accordance with local rules will be considered for admission to the programme.

## — SECRETARIAT —

The address of the programme management is:

**Mining and the Environment 1994**  
**CEN TEK**  
**Luleå University of Technology**  
**S-971 87 Luleå**  
**Sweden**

Telephone: +46 920 918 76  
Telefax: +46 920 990 20  
Telex: 80207 CENTEK S

## CONTENT

- Week 1** Ecology  
Resource use  
Recycling  
Energy conservation  
Information retrieval
- Week 2** Environmental impact  
Permitting  
Land disturbance/Reclamation  
Solid mine waste handling  
Waste water treatment
- Week 3** Environmental monitoring  
Environmental medical effects  
Acid mine drainage  
Decommissioning  
Legislation
- Week 4** Plants and mine visits  
GIS applications  
Environmental economy  
Environmental management  
Environmental auditing

## DATE AND PLACE

The course will take place September 12 – October 7, 1994. The main part of the course will be held at CENTEK, Luleå, Sweden.

## TEACHING

The course will include lectures, discussions in small groups, discussions in plenum, study visits and case studies. All participants are expected to present the mining industry in their home countries and be prepared to discuss related environmental problems.

The course is demanding and requires the participants to be active and attend the entire programme.

## SELECTION

The programme management and representatives of BITS will jointly select up to 25 participants from among the applicants. Immediately after the selection the accepted participants will be informed by telex or fax to their employer and asked to confirm their acceptance to come to Sweden. Withdrawal at too late a date will deprive other candidates of the possibility to attend since standby candidates might not be called in time. Upon confirmation from the accepted participant he/she will receive further information on the course including practical arrangements through documents despatched by air mail.

## LANGUAGE REQUIREMENTS

The programme will be organized and conducted in English and consequently a high proficiency in the English language is required. Candidates whose mother tongue is not English will have to submit - together with the application form - an official language certificate, indicating their proficiency in English.

## APPLICATION

Applications should be made on the special form which is attached to this pamphlet or can be requested from the nearest Swedish Embassy. Concerning the language requirement the Swedish Embassy must be consulted.

When duly filled in the application form should be sent to the appropriate Swedish Embassy via the official channels for endorsement. In most countries this means that the application must pass through the appropriate Ministry responsible for the official nomination of the candidate.

**CLOSING DATE FOR APPLICATIONS IS MAY 15, 1994.**

Applications received by the Embassy after this date can not be considered. This also applies to incorrectly completed applications.

## COST OF PARTICIPATION

The cost of participation for the programme is divided into two parts, one being the participation fee, the other the cost of accommodation and meals:

### Participation fee

SEK 28.000 (approx. eq. to US\$ 3,500)

### Accommodation and meals

SEK 18.300 (approx. eq. to US\$ 2,300)

The participation fee includes all lectures, literature and documents, as well as insurance and transports within the programme. Accommodation and meals includes housing and all meals.

**International travel costs and costs for personal expenses are not included.**

Extra funds for personal expenses are necessary and the relevant authorities should therefore supply their nominated participants with a daily allowance to cover personal expenses in Sweden. Each participant has to arrange for his/her own transport from his/her home country to LULEÅ, Sweden, and back.

Scholarships are available for qualified applicants from certain low and middle income countries. Further information on scholarships may be obtained from the nearest Swedish embassy or Consulate General.



## Environnement et Développement

### Session de formation continue

A l'intention des professionnels francophones  
des pays en développement

Du 5 septembre au 28 octobre 1994

En collaboration avec:  
l'Institut Universitaire d'Etudes du Développement (IUED)  
le Centre Universitaire d'Ecologie Humaine (CUEH) de l'Université de Genève  
le Centre Universitaire d'Etude des Problèmes de l'Energie (CUEPE) de l'Université de Genève  
le Service de Formation Continue de l'Université de Genève

Organisation:  
Académie Internationale de l'Environnement (AIE)  
Direction de la Coopération au Développement et à l'Aide Humanitaire (DDA)  
Programme des Nations Unies pour l'Environnement (PNUE)



AIE



DDA



PNUE

Le concept de développement durable a reçu une légitimité politique lors de la Conférence des Nations Unies sur l'Environnement et le Développement (Rio, Mai 1992).

Environnement et développement sont indissociables. Le processus de développement durable demande la prise en compte des dimensions écologiques, sociologiques et économiques non seulement dans l'analyse des problèmes mais aussi dans l'identification et la négociation des solutions entre partenaires concernés.

La volonté des gouvernements de s'engager dans un tel processus va se concrétiser par des changements aux niveaux des politiques, des stratégies et des programmes nationaux.

La mise en œuvre de ces nouvelles orientations nécessite le développement et une plus grande mobilisation des ressources humaines et financières. En outre le succès dépendra de la capacité des pays d'établir un véritable partenariat entre les différents acteurs tant au niveau global que national.

**OBJECTIFS**

Accroître le niveau de compétence, de crédibilité, et d'engagement des participants et augmenter leur capacité de décision, de coopération et de communication.

**THEMES**

- Développement durable: concepts et réalités
- Négociations: techniques, processus et applications.
- Information et Communication: techniques et pratiques.
- Politiques et Projets: Formulation, mise en œuvre et suivi.

**STRATEGIE**

L'approche est axée sur la valorisation de l'expérience des participants. Les thèmes principaux feront l'objet d'un tronc commun où recherche personnelle et travail en groupes auront une large place. Des modules spécifiques seront aussi proposés au choix des participants en fonction de leurs besoins. Des visites et activités de terrain sont prévues.

**PARTICIPANTS**

Professionnels occupant des fonctions de responsabilité liée à l'environnement.

**ENCADREMENT**

Professeurs, consultants et responsables de haut niveau venant d'institutions académiques, d'organisations gouvernementales, non-gouvernementales et internationales et du secteur privé.

**CONDITIONS D'ADMISSION**

Maîtrise parfaite de la langue française et engagement personnel.

**FRAIS DE PARTICIPATION**

Les organisations sponsors (Académie Internationale de l'Environnement, Coopération Suisse au Développement et Programme des Nations Unies pour l'Environnement) prendront en charge le voyage, l'allocation mensuelle, l'hébergement en pension complète, les frais d'inscription et de visites ainsi que l'assurance-maladie et accident pour la durée du programme. Les dépenses personnelles sont à la charge des participants.



Monsieur Philippe ALIROL  
Chargé de Programme  
AIE

4, chemin de Conches  
CH - 1231 Conches/Genève  
Suisse

Tél: (++41 22) 789 13 11

Fax: (++41 22) 789 25 38

ou

Dr. Michael ATCHIA  
PNUE

B.P. 30552

Nairobi

Kenya

Tél: (++254 2) 62 34 69

Fax: (++254 2) 22 68 90

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# GESTION DE L'ENVIRONNEMENT ET ENTREPRISE

Octobre 94 - Mars 95

*organisation*

Département d'Economie Commerciale et Industrielle  
Université de Genève

*collaboration*

Centre Universitaire d'Ecologie Humaine (CUEH)  
Académie Internationale de l'Environnement (AIE)



Académie Internationale  
de l'Environnement

## Objectifs

- Acquérir une formation spécialisée sur l'intégration harmonieuse des enjeux environnementaux dans la gestion de l'entreprise.
- Appréhender la dimension environnementale dans la stratégie d'entreprise.
- Maîtriser les méthodes et outils de "management environnemental", selon la fonction concernée de l'entreprise (production, marketing, finance, organisation).

Une approche multidisciplinaire (juridique, politique, commerciale, financière) et une vision globale, prépareront le gestionnaire à intégrer la protection de l'environnement dans la gestion d'entreprise.

Cette formation s'adresse donc aux cadres conscients que le respect de l'environnement est devenu un puissant élément de créativité économique.

formation continue universitaire

## Modules

### 1. GESTION GLOBALE ET STRATÉGIE

- 19.10.1994 ■ Interdépendances Entreprise-Environnement  
15.03.1995 ■ Stratégie et plan environnemental pour l'entreprise

### 2. L'ENTREPRISE DANS SON MILIEU

- 26.10.1994 ■ Législation nationale sur l'environnement  
16.11.1994 ■ Rôle de l'Etat dans la gestion de l'environnement  
23.11.1994 ■ Législation européenne et conventions internationales de l'environnement  
01.03.1995 ■ Systèmes d'information et systèmes d'aide à la décision en gestion de l'environnement

### 3. ECONOMIE ET FINANCE

- 02.11.1994 ■ Les principes économiques de la gestion de l'environnement  
09.11.1994 ■ Coûts et gestion des risques environnementaux  
14.12.1994 ■ Evaluation et internalisation des coûts environnementaux  
22.02.1995 ■ Eco-audit

### 4. MARKETING ET COMMUNICATION

- 30.11.1994 ■ Marketing "vert"  
08.02.1995 ■ Communication environnementale  
15.02.1995 ■ Stratégie pour une société durable  
08.03.1995 ■ Environnement et commerce international

### 5. PRODUCTION ET ANALYSE DE DÉCISION

- 07.12.1994 ■ Analyse coût-efficacité des choix de technologies avec contraintes environnementales  
18.01.1995 ■ Ecobilans de produits et de procédés  
25.01.1995 ■ Logistique et environnement  
01.02.1995 ■ Gestion des déchets et marché des matières recyclées

## Public

Cadres d'entreprises privées et publiques, de niveau universitaire ou équivalent, disposant d'une expérience professionnelle de plusieurs années.

L'admission se fait sur dossier examiné par le Comité Scientifique. Les candidats inscrits à l'ensemble du programme sont prioritaires.

#### Dates et horaire

19 octobre 1994 au 15 mars 1995  
Le mercredi de 9h00 à 17h30 durant 18 semaines

#### Lieu

Académie Internationale de l'Environnement  
4, chemin de Conches, 1231 Conches

#### Délai d'inscription

15 août 1994

#### Finance d'inscription

Fr. 3'000.- pour le programme complet (18 jours)  
Fr. 200.- par journée, pour 5 jours ou plus  
Fr. 250.- par journée, pour moins de 5 jours  
(pause café, repas et documentation compris)

#### Inscription et renseignements

Cynthia van Sluis  
Faculté des SES  
Département d'Economie Commerciale et Industrielle  
Uni-Mail, 102 Bd Carl-Vogt, CH-1211 Genève 4  
Tél. (+41 22) 705 78 29 Fax. (+41 22) 705 78 30

*Cranfield*  
UNIVERSITY

## MSc in Water Policy & Management

Silsoe College

### Background

It is gradually being recognised that the success of water-related programmes depends as much on the physical, political, social, legal-institutional, economic and environmental framework in which the programmes are set as it does on the technical merits of the projects themselves. Integrating approaches to planning and implementation are essential.

At a national level, we are talking increasingly in terms of integrated catchment management as the core principle to future water policy.

On the international scale, policy shapers have been very much aware of the importance of water, of shared use of limited resources and of joint responsibility for the protection of water resources.

Agencies recognise the importance of project sustainability, the success of which depends on better strategic planning and on having the right policy and management supported by good laws, institutions, infrastructure and human resources.

### Core Elements

- **Water Resources:** monitoring/evaluation of water resources; quantity and quality; integrated catchment management; river basins; scientific methods and modelling; climatology, hydrology, hydrogeology, and ecology; pollution.
- **Water Technology & Management:** water supply distribution and treatment; waste water treatment and reuse; irrigation and drainage; flood defence; inland navigation; pollution control; hydro-power; environmental impact; infrastructure maintenance; current and future technology; quality control; project management.
- **Water Demand & Cost:** domestic, agricultural, industrial and environmental water needs and use; population growth/demand prediction; demand conflicts and priorities; demand management; standards of service; efficient water use; sustainability; cost-benefits; economic modelling; water value; pricing and affordability; operation and maintenance.
- **Legislation, Institutions & Society:** institutional development; capacity building; user participation; human resources - staff training and recruitment; training needs assessment; public control vs private enterprise; water rights; society, politics and culture; national and EU legislation relating to water, environment, development control; local and regional treaties; international legislation.
- **Policy Formulation & Implementation:** an integrating unit based mainly on case studies; development of policies and strategies in relation to finite resources, increasing demands and environmental, economic, social, political constraints.



### Course Aims and Objectives

To provide professionals with the necessary skills and understanding so that they may play an effective part, as individuals, as team members and as team leaders, in the development of sustainable water policies and management strategies, either at a regional, national or international level.

- To introduce all the key elements involved in water policy and management.
- To demonstrate how all these elements inter-relate.
- To develop the skills necessary to enable sound policy formulation and implementation.
- To encourage inter-professional cooperation and awareness.

### Target Groups

- Managers, administrators, lawyers, economists, politicians, civil servants, wanting to apply their particular skills in water-related sectors.
- Water engineers and scientists wanting to move into policy development and implementation.

For both national and international situations, in the UK, EU and overseas.

### Entry Requirements

A good honours degree in relevant science and engineering subjects or in subjects such as economics, law, politics, sociology, development studies and administration. We will give preference to mature graduate students with relevant experience.

### Course Outline

Start date: October annually  
Duration: 12 months

#### Autumn term options

- Economics for management
- Hydraulics
- Hydrology & water resources
- Basics of institutional development
- Organisational analysis
- Project planning & feasibility studies
- Water law - introduction
- Water policy systems analysis
- Water quality & water quality testing

*Five units to be taken. Choice will depend on academic and professional background.*

#### Spring term core units

- Water resources
- Water technology & management
- Water demand & cost
- Legislation, institutions & society
- Policy formulation & implementation

*All units to be taken.*

#### Summer term

- Integrated Study Assignment
- Individual Research Project

### Assessment

Assessment will be based on a combination of written exams, coursework, an integrated study assignment report with oral exam, and the individual research project paper.

For application forms, details of any of our other courses, tuition and accommodation charges and possible sources of funding contact:

The Student Recruitment Executive  
Silsoe College, Cranfield University,  
Silsoe, Bedford MK45 4DT  
United Kingdom  
Tel: +44 (0)525 860428  
Telex: 826838 SILCAM G  
Fax: +44 (0)525 861994



## **Communicating for the Environment**

**3 - 28 October 1994**

The Training Department  
International Centre for Conservation Education  
Greenfield House, Guiting Power, Cheltenham  
Glos. GL54 5TZ, UK

Telephone: +44 (0)451 850777  
Fax: +44 (0)451 850705  
Telex: 94081169 GREEN



### **Aims**

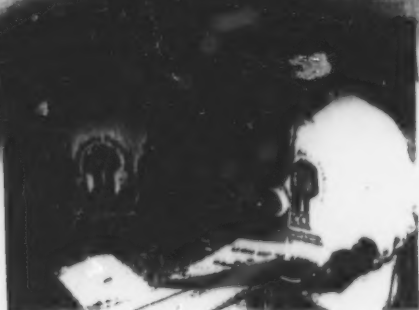
The Communicating for the Environment training course is designed to meet the needs of resource managers, postgraduates and academics working in the fields of environment or development who wish to incorporate environmental education and/or public awareness raising into their professional work. ICCE welcomes applications from both government and non-government organisations.



*Active learning in the field*

The course aims to give participants:

- ☐ an appreciation of the vital role of environmental awareness and education
- ☐ guidelines for the incorporation of educational activities into their work, including strategic planning
- ☐ exposure to, and personal development of, a range of communication techniques
- ☐ the ability to pass on their skills and knowledge to others
- ☐ access to an international network of friends and colleagues, particularly in the South
- ☐ increased awareness and understanding of major environmental issues at local level and in a global context.



*Materials development*

## **Content**

The course will begin by helping participants to develop their own personal definition of environmental education and to relate this directly to their professional responsibilities. The strong emphasis ICCE gives to practical training will provide opportunities for participants to learn and practise a variety of approaches used to present ideas and information, enabling them to acquire the skills and confidence necessary for effective communication.

Practical sessions include an exploration of effective presentation techniques (speaking, use of props and visual aids), interactive teaching methods (discussion, role play and drama, simulation games) and writing for various target groups. This is backed up by study visits to centres and institutions in the UK where these, and other techniques, will be seen in action.



## **Course fees**

Course costs are inclusive except for international travel (which in some cases may receive assistance from ICCE). The Centre is regrettably unable to provide scholarships or bursaries at the present time, but may be able to offer advice regarding possible sponsors. ICCE may also provide letters of support for funders on behalf of strong candidates. This procedure cannot, however, begin before ICCE has formally accepted a candidate. Places are strictly limited and early application is advisable.

The course fee of £2495 (payable in Sterling) covers tuition, accommodation, all meals, per diem, local transport, books, educational materials, session handouts, basic graphic design equipment and study visits.

There will be opportunities to examine and evaluate educational support materials developed by organisations and individuals from around the world. These include posters, leaflets, booklets, printed packs, slide packs, audio, video and multimedia packages. Participants will then receive an introduction to a range of the practical skills required to produce such materials including graphic design, printing, basic photography, and information technology.

Some time will be allocated for project work involving the production of basic support materials, in order to test and reinforce the skills and ideas learned earlier in the course. Time will also be given to exploration and discussion on major environmental issues and thus put into context the endeavours of the participants.

## **Course programme**

ICCE's Communicating for the Environment Course follows the basic programme set out below. However, this programme may be modified to accommodate the specific requirements of the participants.

**Orientation:** the Centre, ICCE staff, course colleagues, the locale and the course.

**Introductory sessions:** communication in humans; what is environmental education?; socio-cultural perspectives; Agenda 21.

**Issues and information:** people and the planet - a brief history; what is development?; contemporary environmental issues; the modern environmental movement (including 'who's who').

**Developing an education strategy:** planning for success; research and documentation; partnerships and networks; formal and nonformal education; resources; restrictions; flexibility; monitoring; implementation; evaluation; case studies.

**Communication skills:** speaking and lecture techniques; handouts; props and visual aids; interactive teaching; group leadership; field work; writing and using support materials.

**Technical skills:** graphic art and design; photography; using and maintaining audiovisual equipment; introduction to information technology and computing.

**Study visits:** including the Natural History Museum, National Botanic Garden, Henry Doubleday Research Association, Wildfowl and Wetlands Trust and Twycross Zoological Garden.



## THE INTERNATIONAL TRAINING CENTRE

### BREEDING AND CONSERVATION OF ENDANGERED SPECIES

#### THE INTERNATIONAL TRAINING CENTRE

#### IDENTIFYING A NEED

Man's growing need for land and natural resources, often exploitive and mindless of the consequences, puts an unbearable pressure on wildlife and habitats. As a result, the rate of species endangerment or, worse still, extinction is rapidly accelerating. The reality is that we are losing priceless, economic, educational and inspirational resources for the want of a little appreciation and management or conservation. For some animals the situation is so desperate that crisis action, such as captive breeding, may be the only way to prolong their survival.

A wiser relationship between Man and his natural environment can only be achieved by adequate rational management of our resources. For this we require trained people that can operate at all levels. However, skilled personnel are rare, especially in developing countries where a large proportion of the world's biodiversity exists and where education avenues to fulfil these needs are limited. This is especially so in captive breeding techniques as an aid to species conservation. This training programme is designed to respond to such a need.

The International Training Programme of the Wildlife Preservation Trusts began in 1978 with an offer to the Mauritius Government to instruct one of their nationals. Within 3 years, a course was consolidated and the number of participants increased to 20 per year. Since 1981, the programme has been accommodated at the International Training Centre for Breeding and Conservation of Endangered Species (ITC). By 1993, the ITC had trained over 350 persons in its main programme and another 300 in the summer school. More than 70 nations have participated. The ITC provides scholarships and a full-time staff (Training Officer, Assistant Training Officer and Administrative Secretary) appointed to run and coordinate the programme.

#### AIM

The aim of the programme is to provide training in the techniques of breeding and management of endangered species as an aid to their conservation. The programme offers courses at two levels: a) basic practical instruction in modern husbandry methods and breeding techniques for captive animals and b) institutional management and zoo issues founded upon conservation principles.

Enquiries and requests should be addressed to:

The International Training Centre,  
Jersey Wildlife Preservation Trust,  
Les Augrès Manor, Trinity, Jersey, JE3 5BF,  
Channel Islands, British Isles.  
Telephone: Jersey 44-534-864666  
FAX: Jersey 44-534-865161

#### U.S.A.

Wildlife Preservation Trust International,  
34th Street and Girard Avenue,  
Philadelphia, Pennsylvania 19104, U.S.A.  
Telephone: 1-215-222 3636  
FAX: c/o Philadelphia Zoo: 1-215-387 8733

#### CANADA

Wildlife Preservation Trust Canada,  
17 Isabella Street, Toronto, Ontario M4Y 1M7,  
Canada.  
Telephone: 1-416-698 9181  
Fax: 1-416-698 4936

### FACILITIES

All programme activities are centred around the ITC complex at "Les Noyers", a converted farmhouse and buildings adjacent to Jersey Zoo. The ITC is divided between training and research facilities and the student residence. The complex offers a well-furnished reference and study facility. It comprises a lecture hall, behavioural observation chambers, audio-visual room with video editing equipment, photographic and illustrations room with darkroom, specimen preparation and exhibition unit as well as a 'reference workshop' with source materials, library and computing facilities. The library includes 2,000 volumes and more than 10,000 reprints.



*Practical Work*

Trainees are accommodated in the students' residence in comfortable surroundings maintained by a live-in housekeeper. Single or twin study/bedrooms are allocated as available, and there is a dining room and lounge for use by trainees. Breakfast and snack lunch are on a self-service basis, with a cooked meal in the evening. Special dietary requirements are catered for and laundry facilities are available.

Independent research workers may also be in residence at any time of the year.

### THE BENEFITS

There is no doubt that personnel trained in the correct management of captive wild animals are an asset to any zoo or other organisation keeping animals. The principal benefit, which forms the foundation for all others, is that animals in trained hands will improve in health, longevity and breeding. For a zoo, Wildlife or Forestry Department or National Park attempting to breed native endangered species on a limited budget, this can mean the difference between failure or success. Funds invested in a captive breeding programme will produce results which can lead to further financial backing. An animal collection in the care of trained staff can boost tourism potential thus providing an economically worthwhile, self-sustaining wildlife resource. The trained person can also transform or create captive environments which relay a strong conservation education message to the local community.





# ECOSURVEYS LTD SUMMER AND AUTUMN 1994 TRAINING PROGRAMME

**GRASSLAND MANAGEMENT FOR CONSERVATION**  
13-14 JULY

**PLANTS OF RIVER CORRIDORS**  
25-29 JULY

**INTRODUCTION TO IDENTIFYING AND SURVEYING TERRESTRIAL  
INVERTEBRATES** 15-19 AUGUST

**APPLYING ECOLOGICAL ASSESSMENT TECHNIQUES**  
12-16 SEPTEMBER

**POLLUTION MONITORING USING BIOLOGICAL INDICATORS**  
17-19 OCTOBER

**ENVIRONMENTAL ASPECTS OF CIMAH ASSESSMENTS**  
20 OCTOBER

**IDENTIFICATION OF AQUATIC INVERTEBRATES FOR WATER  
POLLUTION MONITORING** 24-28 OCTOBER

Ecosurveys Ltd is the leading ecological consultancy in the UK employing a range of specialists in Botany, Birds, Invertebrates, Mammals, Herpetiles and Fisheries. The company has contributed to a wide range of environmental assessments and industrial projects requiring ecological input and has extensive experience of pollution monitoring using ecological communities. Ecosurveys Ltd staff have experience of ecosystems in over 35 countries including North and South America, Europe, Africa, Asia and Australasia.

## LOCATION

The courses will be run from the DevAura training centre at Tetford near Horncastle in the heart of the beautiful Lincolnshire Wolds. Accommodation and full board is available at this centre for £100 per week for a shared room or pro rata for shorter courses.

## ENQUIRIES

General enquiries, telephone bookings and changes to delegate information should be made to Wendy Coy, Training Course Administrator, Ecosurveys Ltd, Friory Lodge, Hagnaby, Spilsby, Lincolnshire, PE23 4BP. Tel: 0790 763665 or Fax: 0790 763417

## FEEES AND TECHNICAL CONTACTS

Grassland Management for Conservation (£200)

Plants of River Corridors (£380)

Introduction to Identifying and Surveying Terrestrial Invertebrates (£380)

Applying Ecological Assessment Techniques (£380)

Pollution Monitoring using Biological Indicators (£250)

Environmental Aspects of CIMAH Assessments (£180)

Identification of Aquatic Invertebrates for Water Pollution Monitoring (£380)

## GRASSLAND MANAGEMENT FOR CONSERVATION 13-14 JULY

- Management of existing grassland to create greater botanical diversity.
- Creating wildflower meadows successfully.
- Site visits to grassland managed in different ways.

*A practical course aimed at estate, grounds or conservation managers. At the end of the course the participants should be aware of the most successful techniques for increasing botanical diversity in existing grassland or in creating new wildflower meadows.*

## PLANTS OF RIVER CORRIDORS 25-29 JULY

- Field based course on how to identify the major habitats and plant communities of river corridors.
- Intensive sessions on aquatic plant identification.
- Identification skills taught to provide basis both for taking an IDQ qualification and for carrying out NRA River Corridor Surveys.

*At the end of this field based course participants should be capable of carrying out an NRA style river corridor survey.*

## INTRODUCTION TO IDENTIFYING AND SURVEYING TERRESTRIAL INVERTEBRATES 15-19 AUGUST

- Practical laboratory and field based course.
- Learn how to identify the major groups of terrestrial invertebrates.
- Classification of sites by their value for invertebrates.

*A practical course aimed at general ecologists and biologists. At the end of the course the participants should be able to place terrestrial invertebrates in their major groups, evaluate their conservation significance and use scoring systems to classify invertebrate sites.*

## APPLYING ECOLOGICAL ASSESSMENT TECHNIQUES 12-16 SEPTEMBER

- Ecological assessment techniques for EIA's, CIMAH, BS7750 and EMAR site audits.
- Demonstrations of field survey techniques for habitats, plants, invertebrates, birds, fish, amphibians and mammals.
- Project design and evaluation of ecological survey data.

*By the end of the course participants should be capable of designing, commissioning or reviewing ecological assessments for a wide range of projects.*

## POLLUTION MONITORING USING BIOLOGICAL INDICATORS 17-19 OCTOBER

- Monitoring the impacts of effluents on river water quality using aquatic invertebrate communities.
- Measuring air quality pollution with lichens.
- Biological methods for monitoring estuarine and coastal pollution.

*This course is aimed at environment, site or quality managers in industry with responsibility for ensuring that emissions and effluents are not damaging the environment. By the end of the course participants should be aware of when and how to undertake biological monitoring for pollution assessment.*

## ENVIRONMENTAL ASPECTS OF CIMAH ASSESSMENT 20 OCTOBER

- DoE guidance on environmental issues to be included in CIMAH assessments.
- Evaluating the potential for major accidents to the environment.
- Site visit to devise environmental inputs to a CIMAH report.

*This course is aimed at Health and Safety Managers responsible for environmental aspects of their business. Participants will be capable of assessing the environmental impacts of their business.*

## IDENTIFICATION OF AQUATIC INVERTEBRATES FOR WATER POLLUTION MONITORING 24-28 OCTOBER

- Intensive course on freshwater aquatic invertebrate identification.
- Identification skills taught to provide basis for taking IDQ qualification.
- Use of biotic indices taught to monitor water quality in rivers and lakes.

*By the end of the course participants should be capable of identifying invertebrates found in rivers and lakes to a sufficient level to calculate biotic indices and to assess water quality.*

University of Manchester

Institute for  
Development

Policy and  
Management

INSTITUTE OF  
DEVELOPMENT  
POLICY AND  
MANAGEMENT

UNIVERSITY OF MANCHESTER

December 1994

Institute for Development Policy and Management  
University of Manchester  
Crawford House, Precinct Centre  
Oxford Road  
MANCHESTER M13 9QS  
United Kingdom

Telephone: 061-275 2800  
Telex: 669755 OFFICE G attn. IDPM  
Fax: 061-275 8829

## Institute for Development Policy and Management

The Institute for Development Policy and Management (IDPM) is a multi-disciplinary group specialising in training, consultancy and research in management and development in the Third World. Its main concern is to help develop the professional competence of individual managers and policy-makers, and contribute to the strengthening of the organisations in which they work through a variety of programmes in the UK and overseas.

### Resources

IDPM has thirty-five Manchester-based professional and administrative staff, and numerous associates in Britain and overseas. As an Institute within the University of Manchester, IDPM is able to call on the extensive resources of one of Britain's largest and best universities, with its long-established reputation in many fields of development.

The IDPM library has over fifteen thousand separately catalogued items, with subscriptions to some one hundred and seventy journals, and serves the needs of many students of development in addition to regular participants in IDPM study programmes. Teaching resources available include micro-computing facilities and audio visual aids, including TV and video.

### Programmes in Manchester

The following study programmes are offered annually at IDPM.

#### Study Seminars (4 - 6 weeks): details on request.

##### Short Courses (12 weeks)

|                                                          |                |
|----------------------------------------------------------|----------------|
| Human Resource Studies                                   | (Sept - Dec)   |
| Gender and Development: Policies, Projects and Practices | " "            |
| Management of Agricultural and Rural Development         | " "            |
| Senior Management                                        | (Jan - March)  |
| Personnel Management                                     | " "            |
| Training for Trainers                                    | " "            |
| Management Services                                      | (April - July) |
| Rural Poverty Alleviation: Project Design and Management | " "            |
| Management Services and Information Systems              | " "            |

#### Graduate Diplomas (9 months — Sept - June):

Development Administration  
Training and Development for the Public Sector

#### Masters Degree Programmes (12 months — Sept - Sept):

MSc in Human Resource Development  
MA (Econ) in Development Administration and Management  
MA (Econ) in Economics and Management of Rural Development  
MSc in Management and Implementation of Development Projects

#### Research Degrees

MPhil and PhD

#### Collaboration Overseas

IDPM offers two field-based Masters programmes in institutional reform, the MA in Institutional Development and the MA in Corporate Development. These are located in-country with collaborating institutions.

At the request of overseas governments and organisations, or international agencies, IDPM contributes to institution building and managerial development through a combination of consultancies, research and collaboration in the design and conduct of training programmes. Recent work has been undertaken in Bhutan, Brunei, China, Ghana, Hong Kong, Indonesia, Malawi, Mexico, Myanmar, Nepal, Pakistan, Sierra Leone, Tanzania, Thailand, Zambia and Zimbabwe.



# MANAGEMENT OF AGRICULTURAL AND RURAL DEVELOPMENT

A Practical Study programme 19 September — 9 December 1994

## Objectives

The objectives of the study programme are to improve the knowledge and skills needed to develop the participants' managerial ability and performance in the development context; and to offer them an opportunity to identify and analyse problems in the administration and management of agricultural and rural development. The programme is practical and will include ten days fieldwork in an overseas country.

## Participants

The programme has been designed for senior administrative and technical officers who have considerable field experience and who now hold managerial positions in the agricultural and rural development sectors. This includes senior administrators, project managers and planners, credit bankers, local government officers, and the field staff of central government departments concerned with agricultural development and with the rural sector generally.

Applicants will normally be expected to have a university degree. However, non-graduates will be welcome provided they have experience of senior-level management in the rural sector.

Fluency in written and spoken English is essential.

## Programme Content

Participants will have an opportunity to influence the detailed content of the course within the following broad framework:

### 1 Rural Development Policies

- Objectives of agricultural and rural development
- Social, economic and political constraints in rural development
- National policies: reconciling conflicting claims on resources
- Rural development within structural adjustment policies

### 2 Agricultural and Rural Development Institutions

- Central and local government agencies
- Non-government organisations and local participation
- International aid agencies

### 3 Management

- Organisational structure and change
- People in organisations: Leadership, team-building and conflict management
- Negotiating and presentational skills
- Management and development of human resources
- Data management systems, including the use of micro computers

### 4 Planning and Budgeting Procedures

- Data collection and statistical methods
- Basic financial procedures: cash flow, discounting, balance sheets
- Rural project identification and preparation
- The project cycle
- Project appraisal methods: cost-benefit analysis, critique and alternatives
- Monitoring and evaluation

### 5 Project Implementation

- Scheduling and control of projects: critical path analysis; control of physical activity and expenditure; managing risk and uncertainty
- Materials management: procurement, storage, handling and financial control
- Maintenance of physical assets
- Contractual aspects of projects

### 6 Policy Analysis and Design

- Marketing and trade development
- Technology development and diffusion
- Rural credit provision
- Rural industrialisation
- Natural resource management
- Gender in development policies
- Public sector reform

### 7 Individual Project Work

- Time will be available for participants to make a deeper study of any subject of the course in which they may have a particular professional interest.

## Programme Structure and Methods

For ten weeks of the programme all participants will work on the issues outlined, mainly at IDPM in Manchester but also through visits to relevant government and agricultural centres in the UK. Ten days will be spent in fieldwork on agricultural and rural development projects in an overseas country.

A variety of learning methods will be employed including case studies, management exercises, project and situation simulations. Considerable interaction and discussion is encouraged.

Each participant will be expected to prepare a project in an area of particular interest to him or her or to his or her organisation. Hence it would be advisable to bring along suitable background material for the topic in question. Individual tutorial guidance will be given on the project.

## Funding

Applicants are normally funded by their own government or organisation, or by external aid agencies, but applications from private individuals will be considered. The University of Manchester unfortunately cannot offer scholarships. Advice on availability of British Technical Cooperation Training awards can be obtained from British Embassies, High Commissions or British Council representatives. Advice on the availability of funding by other bilateral or international aid agencies can usually be obtained from their local offices.

## Programme Costs

This programme is residential. The composite programme fee is approximately £7,850 which includes accommodation in Manchester and all fieldwork expenses.



UMIST  
Department of  
Civil and Structural Engineering



## M Sc

Management and Implementation of  
Development Projects

with options in

1. Irrigation
2. Rural Poverty Eradication
3. Water Supply and Sanitation
4. Infrastructure Development
5. Environmental Impact

One Year Course commencing  
September (Annually)

University of Manchester

Institute for Development  
Policy and Management

### DURATION

The course will run for an academic year, with teaching being concentrated in the terms beginning September and January; participants may complete their dissertation within the year, or they may choose to prepare their dissertation on a working problem in their home organisation and submit during the following year (subject to University approval and to suitable supervision arrangements).

A variety of formal and participative learning methods will be employed, the latter including case studies, management exercises, project and situation simulations. Considerable class interaction and class discussion is encouraged. In addition, visits will be made to appropriate sites and institutions, both in U.K. and during the course of a two-week period of overseas fieldwork.

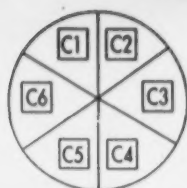
### METHOD OF APPLICATION

Applicants should write, in the first instance, to the Postgraduate Admissions Tutor, Masters Programme in Management and Implementation of Development Projects, Department of Civil and Structural Engineering, UMIST, PO Box 88, Manchester M60 1GD, U.K. Tel: ++44 (0) 61-200 4621 Fax: ++44 (0) 61-200 4646.

Applications for the programme commencing September should reach the Admissions Tutor by 1st August although late applications may be considered. If you are applying through a funding agency, please ensure adequate time for the application to be processed. Provision of options is subject to demand, and applicants are requested to indicate their requirements as early as possible.



## CORE MODULES



- C1 Human and Organisation Management.**  
The nature of management; what motivates people at work; management styles, leadership, and team building; the wider political and administrative setting; structure and functioning of organisations; management of change and conflict; negotiation, financial and manpower aspects of management.
- C2 Decision Process and Techniques.**  
Models of decision making; policy making and decision theory; crisis management; the decision cycle; project appraisal as a decision process; risk and uncertainty.
- C3 Design for Management.**  
The nature of the interaction between management and design - case studies; project identification; community participation; methodology for pre-design socio-economic surveys; role and structure of aid agencies.
- C4 Construction Management in Developing Countries**  
Project life cycle and life cycle costing; use of appropriate technology; indigenous materials and products; design training and contractual aspects of operation and maintenance; labour intensive construction funding and procurement construction environment in developing countries.
- C5 Project Management**  
Economic appraisal as a project management tool; ranking and conflict of objectives, roles and duties of the project manager and his counterparts; programming, estimating and planning; monitoring - cost and time control; contract strategies for design, construction and tendering; case histories.
- C6 Research Methodology**  
Study and investigational skills; computing skills word processing, databases, spreadsheets; research design and data collection methods; preparation of participants dissertation proposal.

## OPTIONAL MODULES

- 01 Irrigation**  
Plant - soil - water relationships; irrigation layouts and scheduling methods; basic hydraulics and hydrology; water sources and their management; system design and operation; staffing and institutional aspects; agricultural planning; construction.
- 02 Rural Poverty Eradication**  
1) An understanding of agricultural sector policies linked to the productivity of resource - poor farmers.  
2) Skills in design, supervision and implementation of rural investment projects and microprojects, specifically focused on poverty eradication.  
3) Analysis of funding agency poverty strategies, including international development Banks/Funds, bi-lateral agencies and non-governmental organisations.

## OBJECT

The object of the course of study is to provide a sound interdisciplinary education in the process of administering and managing large and small capital investment projects in developing countries. This process starts with the identification of a need, and possible means of meeting it, together with the policy and resources implications; it then moves through the assessment and appraisal of the alternative means, to the design, implementation, operation and maintenance of the project.

## PARTICIPANTS

The programme has been designed for administrators, engineers and other professionals concerned with the implementation and operation of capital investment projects. It is intended to be relevant and useful to those who are already engaged in management and also to those who wish to pursue such careers. The main purpose is to provide an education in the concepts, theories and techniques involved in the management of development projects, the primary focus of the technical modules being an appreciation of the nature and consequences of technical design choices, and of the way in which design and management are interdependent.

The normal requirement for entry would be an Honours degree or equivalent in a related subject such as engineering, business studies, economics or agriculture. This list is not exhaustive and other disciplines and experience will be taken into account. An acceptable level of spoken English and comprehension is essential.

## PROGRAMME STRUCTURE & CONTENTS

Participants must study the six core modules and two of the optional modules. A dissertation is required.

A two week overseas study visit is an integral part of the course.

## SOURCES OF FUNDING

Applicants are encouraged to seek funding from their institutions, employers, their own government, bi-lateral or multi-lateral aid agencies. There are a limited number of SERC studentships available to British and EEC students. The University of Manchester cannot, however, offer scholarships. Advice on the availability of British Technical Cooperation Training can be obtained from British Embassies, High Commissions or British Council representatives. Advice on availability of funding by other bi-lateral or international aid agencies can usually be obtained from their local offices.

### 03 Water Supply and Sanitation

Transmission and control of water-related diseases; water quality/testing; water sources, treatment, transmission and distribution; sewerage, design and construction; sewage treatment processes and options; on-site sanitation; solid waste treatment; management, operation and maintenance.

### 04 Infrastructure Development

The three sectors of transportation, power and buildings will be covered. The module will examine the design, construction, maintenance and operation of the facilities in terms of their appropriateness to the developing country environment.

### 05 Environmental Impact Assessment

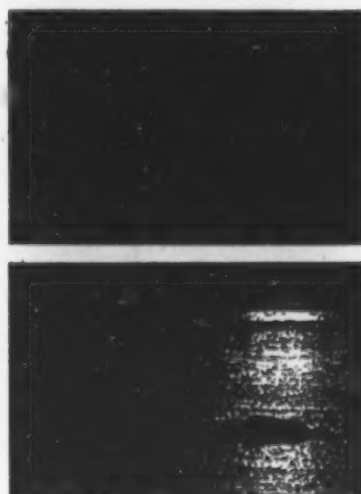
Policy and project impacts on human populations, climate, water, soil and wildlife; quantification and appraisal of effects; regulatory mechanisms.



# CEMP

CENTRE FOR ENVIRONMENTAL  
MANAGEMENT AND PLANNING

## CONFERENCE AND TRAINING PROGRAMME 1994-1995



Centre for Environmental Management  
and Planning  
AURIS Ltd.  
23 St Machar Drive  
Old Aberdeen AB2 1RY  
Scotland · UK  
Telephone 0224 272483/272479  
Telex 73458 UNIABN G  
Fax 0224 487658

### WHAT IS CEMP?

Institutional strengthening, training and increasing public awareness are key environmental concerns which now need to be given even greater emphasis after the United Nations Conference on Environment and Development (Rio 92). Since 1972 CEMP has undertaken research, training, consultancy and the provision of environmental information services on environmental management and impact assessment worldwide. CEMP is part of the Environmental Division of Aberdeen University Research and Industrial Services (AURIS) Ltd. Over 3,500 people from more than 100 countries have been trained since 1978, both in the UK and developed and developing countries. CEMP has undertaken training for a wide range of clients including governments, the World Bank, UNIDO, WHO, UNEP, ILO, the British Council, planning authorities, public and private companies and bi- and multi-lateral international and agencies. Services offered by CEMP include:

- Health, social, economic, water, air, ecological, landscape, visual and risk assessments
- Base line studies, environmental monitoring, air and water pollution assessments
- Environmental audits
- Resource and land use planning, coastal planning, forestry, conservation, fish farming and waste management
- Advice on legal, administrative and policy aspects of environmental assessment and management
- Guidelines and methods for EA
- Environmental information services
- Marine environmental monitoring
- Integration of environmental factors into corporate decision-making

With 22 years practical experience of environmental management and assessment, CEMP can provide services to a wide range of clients. For details of how we might help you to develop collaborative training programmes, specialised training suited to your needs, or a wide range of consultancy services, please contact Brian D. Clark, Executive Director, CEMP.

- Management, production and review of environmental assessments (EAs)

## CONFERENCE AND TRAINING PROGRAMME 1994-95

- |                                                 |                                                                                                                                                                                                                           |
|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7-9 March 1994                                  | Seminar on Environmental Assessment for Industry, Caracas, Venezuela                                                                                                                                                      |
| 25-26 April 1994                                | Course on Environmental Impact Assessment for Civil Engineers, University of Aberdeen, Scotland, UK. Organized jointly with the Vocational Training Unit, University of Aberdeen, Scotland, UK.                           |
| 2-4 May 1994                                    | Seminar on Environmental Assessment for Industry, Brazil or Argentina                                                                                                                                                     |
| 26 June-9 July 1994                             | 15th International Seminar on Environmental Assessment and Management, University of Aberdeen, Scotland, UK.                                                                                                              |
| 17 July-7 September 1994                        | 9th Intensive Training Course on Environmental Assessment and Management, University of Aberdeen, Scotland, UK.                                                                                                           |
| 4-5 October 1994                                | 1st International Course on New Approaches to Environmental Protection and Management in the Oil and Gas Industry, King's Conference Centre, University of Aberdeen, Scotland, UK to be repeated in Portugal in November. |
| 10 October-30 November 1994 (Dates provisional) | 10th Intensive Training Course on Environmental Assessment and Management, University of Aberdeen, Scotland, UK.                                                                                                          |
| 31 October-2 November 1994                      | 2nd International Course on New Approaches to Environmental Protection and Management in the Oil and Gas Industry, the Algarve, Portugal.                                                                                 |
| 20-26 November 1994                             | International Think-Tank on Sustainable Tourism for the 21st Century—Practical Strategies and Future Directions, the Algarve, Portugal.                                                                                   |
| 25 June-8 July 1995                             | 16th International Seminar on Environmental Assessment and Management, University of Aberdeen, Scotland, UK.                                                                                                              |
| 16 July-6 September 1995                        | 10th Intensive Training Course on Environmental Assessment and Management, University of Aberdeen, Scotland, UK.                                                                                                          |

Further information can be obtained from Mrs Barbara Rae and Mrs Jane Butler, Conference Administrators.

## TELEVISION FOR DEVELOPMENT

### Postgraduate Diploma/MA



King Alfred's College

A Degree-awarding College affiliated to the  
University of Southampton

#### Postgraduate Diploma/MA Television for Development

This new one year, full-time postgraduate course links television and video production with the processes by which the poor are enabled to help themselves in development contexts. It is the first course of its kind in Europe. The course is based in the College's department of Drama and Television and is validated by Southampton University.

Students of the course will graduate not only as producers of the media, but as development workers with transferrable skills in the area of communication in development contexts.

The course will bring together students from the North and the South to debate how television and video can be made to work as a tool for development using both non-broadcast video at community level, and broadcast television nationally and internationally. The course aims to create a better understanding amongst students coming from backgrounds in either development or media, of the powerful role that television and video can play not only in conveying development messages, but also in helping communities to represent themselves.

The course will continue the strong tradition at King Alfred's College of combining theoretical and practical teaching. Students will be encouraged to use debates in such areas as reception and discourse theory together with current development theory and practice to inform their own research and production.

## How will you be taught

The course emphasises student-centred learning with small group seminars, workshops and projects. The philosophy is complimented by the use of self and peer assessment and accreditation, through which the student group is able to contribute their own assessment of the work undertaken on the course and a proportion of the final accreditation. All students will enter the course as postgraduate diploma candidates but will be assessed at the end of the first term and advised whether they should proceed on the course by the Diploma or Masters pathway. The substantial difference between the two pathways comes in the originality of thought demanded in the written work, and especially the final dissertation presented by MA candidates. MA candidates will be asked to submit a 10,000 word dissertation by the October following the final term.



Course teaching is strengthened by a wide range of professionals drawn from leading development agencies and television production. Two thirds of the course is devoted to practical production work

and small teams of students will work on productions designed to meet the needs of specific audiences.

## Grants

A proportion of British students may be funded by the British Academy. Certain students will be funded by their employers. Overseas candidates may apply to the British Council office in their own country. The course is included in the official UK Technical Co-operation Programme and where national governments give the course priority in its training requirements, they may nominate candidates for ODA funding from the British Government. Applicants taking this route to funding need not be government employees but will need official endorsement. In the first instance though, we advise overseas candidates to seek information from their local British Council office.



## Application

For further details and an application form contact:



The Admissions Office  
King Alfred's College, Sparkford Road  
Winchester, SO22 4NR  
Telephone: (0962) 841515  
Fax: (0962) 842280



**SCHOOL OF ENGINEERING**  
Division of Materials & Minerals



University of Wales  
PO Box 925, Cardiff CF2 1YF  
Fax (0222) 874292 Telex 498635

**Environmental Engineering**

☎ (0222) 874825

**Environmental Engineering**

Within society there is an increasing awareness of the environment and its importance. The media have been increasingly strident about the "greenhouse effect" but this is only one of many environmental problems which require attention. For example, many people currently work in unhealthy conditions. Industry is being forced to look for economical solutions which remove this health risk to their employees and the public.

Other problem areas of which people are becoming increasingly aware are water pollution and the low utilisation of renewable energy sources such as solar and wind power. In addition many areas are blighted by derelict land and other forms of pollution created by defunct industries.

If society is to cope with the problems which are facing it, then practical solutions are needed. Such solutions can only come from the application of Engineering techniques. Do you want to create a better world for people to live in? If the answer is yes, read on.

**Contact Name:** Dr Keith Williams, Tel 0222 874847

**Accrediting Organisations:** The Institute of Water and Environmental Management

**Number of Places:** 15

**Typical Offer :-** A level, BCC/CCC, (must include Mathematics), AS level, 2 AS levels considered as one A level, but not as a substitute for Maths. BTEC, 4 Merits/Distinctions at Level III. Candidates with HND may be considered for direct entry to second year. Other qualifications are also accepted.

## Environmental Engineering in Cardiff

The School of Engineering at Cardiff contains staff who are specialists in disciplines which are of direct relevance to the environment. These include such subjects as solar energy, land reclamation, prevention of industrial diseases, water pollution control, efficient combustion processes and waste processing. These subjects and others have been combined to produce a wide ranging and interesting course which is intended to create the environmentalists that society needs. So whereas a scientific training would merely lead to skills of understanding and investigation, the engineering content of the course includes details of how to take action to remove or alleviate problems.

The course has an industrial bias in that the training is not aimed at closing down

polluters but towards producing environmentally acceptable manufacturing methods. Such an approach will enable us to keep our standard of living whilst having an assured future. The idea of returning to a purely agricultural society is not feasible and so we have to learn to manage our industries in new ways.

Also the practical bias of the course is of interest to potential employers. These include such government bodies as the Health and Safety Executive as well as the water industry, energy undertakings and all large scale manufacturers.

### The Course

The course is of three years duration and leads to a B.Eng. degree. The teaching is by lectures, laboratory work and projects. The first year of the course ensures a good grasp of Engineering basics. Subsequent years include environmental subjects as well as subjects such as management and law which ensure that a graduate from the course has a full range of personal skills.

#### First Year

Environmental Science and Engineering

Surveying field course

Geology/Soil field course

Mathematics and Statistics

Mathematics and Numerical Methods

Drawing, Design and CAD

Experimentation, Software Packages and Laboratory Work

Materials, Statics and Solid Mechanics

Dynamics and Fluid Mechanics

Professional Studies with European Language option

Surveying

Geotechnics

#### Second Year

Thermodynamics

Fluid Mechanics

Electrical Engineering

Computer Studies

Environmental Science

Analytical Methods

Water Resource Engineering

European Language (Optional)

Health and Safety

Pollution Control Engineering

Industrial Project

#### Third Year

Management Economics and Finance

Environmental Law

Environmental Impact Assessment

Energy Studies

Environmental Monitoring

Health and Safety

Pollution Control Engineering

Waste Management and Recycling

Environmental Engineering Project

Case Studies

## FORESTRY AND AGROFORESTRY TRAINING AND EDUCATION

An intensive 12 week training methods course for foresters and agroforesters involved in teaching, training, extension and social forestry work. The course develops planning, communication and evaluation skills and leads to the Overseas Technical Teachers' and Trainers' Award (OTTA). The emphasis is on acquiring practical training competencies using participatory strategies. Gender and environmental issues are considered throughout the course in the context of training for development. The course normally runs twice each year, commencing in April and September.

## Introduction

The Forestry and Agroforestry OTTA course started in 1988 in response to the growing demand for forestry trainers. The course is conducted by tutors who have extensive overseas experience and the programme of study has been designed to meet the requirements of a broad spectrum of forestry trainers.

## Participants

Course participants include:

- Staff responsible for the in-service training of forestry and agroforestry extension personnel
- Forestry and agroforestry teachers working in natural resources, institutions including colleges, polytechnics and universities
- Staff involved in social forestry and agroforestry extension programmes
- Other personnel who have training functions in social forestry projects, tree planting and land rehabilitation schemes and specialist forestry organisations

Emphasis is placed on the individual requirements of participants who, after studying basic training methods, are encouraged to select and apply techniques to their own subject areas and jobs.



Teaching a practical skill

## Programme of Study

## ■ Planning Training Programmes

Participants produce training programme outlines suitable for their own work situation. These include:

- \* Preparing profiles of target groups
- \* Identification of training needs for specific groups
- \* Rapid rural appraisal and participatory approaches to programme design
- \* Writing aims and objectives
- \* Planning work schedules, including training sessions

The unit allows participants to apply general planning principles to their own jobs and to concentrate on the development of a training programme that can be conducted on their return to work.

## ■ Training Methods

Methods for a range of target groups and topics are considered in depth. Approaches to the teaching of practical skills is an important part of the unit which includes:

- \* Social, cultural and educational factors affecting perception, motivation, communication and learning
- \* Skills and task analysis

For further information contact:

**Centre for Rural Development and Training**  
University of Wolverhampton  
Conway Road  
Walsall WS1 3BD  
Telephone: 0902 323219  
Fax: 0902 323212  
Telex: 940 26695 POLWOLG

- Organisation and management of participatory training techniques
- Case studies and role play
- Question and answer techniques

Participants are required to conduct several training sessions during the course and video recording is used to provide the basis for developing self-evaluation skills.

#### ■ Training Resources

Participants produce and use a variety of learning aids and training resources including:

- Posters and charts
- Chalkboard and whiteboard
- Overhead transparencies
- Handouts
- Leaflets

A range of resources is evaluated in relation to training methods and target groups with the emphasis on designing resources that encourage the learner's active participation in the training process. As a major assignment during the course participants produce and test training resources relevant to their work.

#### ■ Evaluation of Training

Methods of evaluating learning and teaching are examined in relation to specific objectives including:

- Evaluation with course participants
- Preparation of tests
- Objective and subjective questioning techniques
- Assessment of practical skills
- Monitoring and evaluation of training programmes

Participants are required to develop and use evaluation techniques for training sessions and programmes with reference to their own work. The importance of accurate evaluation is emphasised for the design of training programmes in relation to content and method.



*Participants plan a case study as part of a field visit.*

#### ■ Attachment Period

Each participant is attached to a training institution or organisation for a two week period. The attachment is designed to meet individual needs and provide a range of learning experiences related to training methods and technical topics. If required, additional attachments can be arranged before or after the course to meet particular individual requirements.

#### Course Assessment

There is no formal examination but participants are required to submit a series of assignments in order to gain the Award. The assignments focus on practical competence and the emphasis is placed on participants' ability to plan, deliver and evaluate training sessions and programmes. The assignments are designed to be flexible so that participants can make their course work relevant to the demands and realities of their job responsibilities.

The Centre for Rural Development and Training is a leading international centre for consultancy and training in natural resources and rural development. A specialist part of the University of Wolverhampton, we prepare and assist in programmes designed to promote in-country training and develop an organisation's capacity to plan and implement development programmes.

A glance at the spread of our operations worldwide will reveal the extent of our reputation; this has been built up over twenty years through close cooperation with many national government agencies and private consortia in all parts of the globe. With the academic respect gained through many different projects, we provide a level of expertise and experience probably unmatched in the field.

Projects are undertaken in the UK at the University of Wolverhampton, or overseas to suit the client. We offer training and consultancy in:

- Natural Resource Education and Training
- Social Forestry and Agroforestry Communications
- Institutional Strengthening and Management
- Quality Control and Management of Resources
- Women in Development
- Sustainable Staff Development
- Training Materials and Media Production
- Project Identification, Preparation, Management and Evaluation
- Training of Trainers
- Extension Strategies and the Transfer of Technology

### Announcement of Community Forestry Extension Course

**A Short Course on Community Forestry Extension, November 7 to December 2, 1994, Bangkok, Thailand**

Regional Community Forestry Training Center (RECOFIC) in collaboration with the Agricultural Extension and Rural Development Department (AERDD), University of Reading, U.K., is offering a course to provide middle management personnel in forestry departments and community forestry programs with training in extension skills in participative community forestry. Topics will include community forestry, the role of the extension agent in participatory community forestry, needs assessment, social analysis, extension methods, extension education, communication, gender in forestry, participatory planning, evaluation and monitoring, appraisal methods, and microteaching. The course will integrate classroom lectures with field experience in communities in Thailand. Course fee: US\$3,850.

**Contact:** Dr. Somsak Sukwong, Director, RECOFIC, Kasetsart University, P.O. Box 1111, Bangkok 10903, Thailand. Tel: (662) 579-0108, Fax: (662) 561-4880.



### UNIVERSITY OF BOTSWANA FACULTY OF SCIENCE DEPARTMENT OF ENVIRONMENTAL SCIENCE

## MASTER OF SCIENCE IN ENVIRONMENTAL PLANNING

The Environmental Planning MSc programme started in 1990 and has attracted students from Botswana and other African countries. The Department of Environmental Science has an establishment of 19 academic staff, offering a wide range of disciplines and experience to the programme. The Department is located in a new building with well equipped laboratory facilities for soil analysis, remote sensing and planning. In addition, modern computing facilities are available.

#### OBJECTIVES

The programme is designed to provide practical, professional training in the theory, techniques and practice of environmental planning at national and district level. The curriculum aims to develop a sound and critical understanding of the major processes at work in the natural environment and society, with particular emphasis on the interaction between both. To this end, the curriculum covers, among others, the following aspects:

- ecological and hydrological aspects of the physical environment

- geomorphological and pedological aspects of the environment
- economic and social characteristics of human activities
- spatial organisation of human activities and their environmental impact
- theory and practice of environmental planning
- research methodology and practical techniques of data collection and analysis (especially GIS)

A strong emphasis is given to practical and fieldwork.

#### THE STUDY PROGRAMME

The programme extends over two academic years and the intervening long vacation period. The first year is concerned with coursework, and is structured on four major courses:

- The environment—processes, survey and appraisal
- Socio-economic systems and surveys
- Environmental land use planning
- Practical techniques

A total of 300 hours of lectures and practical work is involved. The long vacation period and the second year are devoted to a supervised research project on a practical environmental planning problem. This leads to a dissertation not exceeding 30,000 words. MSc students are expected to actively participate in Departmental seminars, where the research proposal and the draft dissertation are discussed.

#### FURTHER INFORMATION

For further information (admission requirements, application procedure, dead lines, fellowships, etc.), please contact:

The Head  
Department of Environmental Science  
University of Botswana  
Private Bag 0022  
Gaborone  
BOTSWANA

Fax: (267) 356391  
Tel: (267) 351151



## ICRAF training in 1994

**20-24 June** Agroforestry Research for Development, course in English for policy makers: Pretoria, South Africa

**11-22 July** Experimental Design for Agroforestry, course in English for researchers: Nairobi, Kenya

**1-12 August** Agroforestry Research for Development, course in English for extension agents: Pretoria, South Africa

**7-12 November** Training Materials Workshop, in Spanish for trainers and educators: Mexico

**22-26 August** Training Materials Workshop, in English for trainers and educators: Thailand

**14-25 November** Scientific Writing, course in French

and English. West African Rice Development Association (WARDA) and ICRAF: Cotonou, Benin

**14-17 November** Education Workshop, in English and French for educators and researchers: Nairobi, Kenya

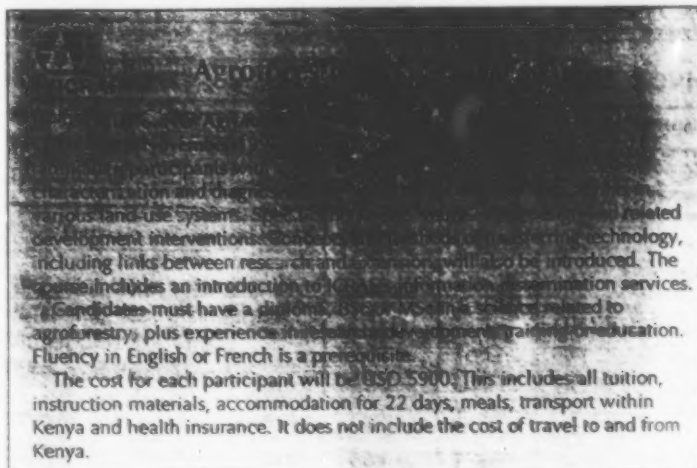
**14 November-2 December** Field Experimentation and Data Collection, course in English for technicians: Machakos, Kenya

**21-25 November** Characterization and Diagnosis Workshop, in English for agrosociologists and agro-economists: Nairobi, Kenya

**21 November-10 December** Information Management and Dissemination, course in English for information specialists: Addis Ababa, Ethiopia

**5-16 December** Multipurpose Tree Improvement and Management, course in English for researchers: Maseno, Kenya

**12-16 December** Agroforestry Workshop for Humid Lowlands of West Africa, in English and French for researchers: Yaounde, Cameroon



### For information on ICRAF training contact:

The Training Coordinator, ICRAF Training Programme, PO Box 30677, Nairobi, Kenya. Fax: (254 2) 521 001; Telex: 22048; Cable: ICRAF Nairobi; E-mail: ICRAF@CGNET.COM  
Please note that course dates are tentative.

# MBA

## Environmental Management

### Programme features:

- Provides an understanding of the ecological and technological fundamentals of today's most pressing environmental problems
- Explores the principles and emerging applications of industrial ecology worldwide
- Develops action-oriented corporate strategies that make anticipation of government intervention a competitive advantage

For more information, Director,  
Master's School of Management  
(RVS/MSM)  
Enders Road, 150  
P.O. Box 1360, 6201 B.C. Nassau  
The Netherlands  
Telephone: 31-43-618318  
Telex: 31-43-618330  
Tele: 56729 RVS/MSM NL  
or: Singapore Office  
P.O. Box 9488, Singapore 1096  
Telephone: 65 - 2221330  
Telex: 95 - 2221355

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(814) 865-3372

PENNSYLVANIA

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## Entrenamientos

**Curso:** Sensores Remotos y Sistemas de Información Geográfica

**Dirigido a:** Profesionales en ciencias de la tierra, dedicados a la planificación, desarrollo y conservación del recurso tierra y manejo ambiental.

**Imparte:** Instituto Geográfico Agustín Codazzi/CIPRES, Bogotá, Colombia

**Fecha:** Mayo 2 - Diciembre 16 1994

**Curso:** Geomática Aplicada al Catastro y Planificación Territorial

**Dirigido a:** Ingenieros catastrales, geógrafos o profesionales dedicados al estudio del catastro y planificación municipal

**Imparte:** Instituto Geográfico Agustín Codazzi/CIPRES, Bogotá, Colombia

**Fecha:** septiembre 5 - noviembre 25 1994

Para más información contactar al Departamento de Inventario de Recursos Naturales, de la Subsecretaría de Estado Recursos Naturales, SEA, a los teléfonos 535-7049 y 535-8911, fax 535-2356.

**Curso:** Geomática Aplicada a la Planificación y Manejo de Cuencas Hidrográficas

**Dirigido a:** Ingenieros forestales, agrónomos, biólogos, agrólogos o profesionales dedicados al estudio de las ciencias de la tierra.

**Imparte:** Instituto Geográfico Agustín Codazzi/CIPRES, Bogotá, Colombia

**Fecha:** Marzo 14 - Junio 3 1994



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Tel 061 275 3204 Fax 061

275 3031 or The Secretary,

The Centre for Social Ethics

& Policy Tel 061 275 3473

Fax 061 275 3262



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For further details please contact: The Information Centre, Farnborough College of Technology, Boundary Road, Farnborough, Hampshire GU14 6SB. Tel: 0252 391391.

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For further details, please contact Professor L. L. Freris, CREST, Department of Electronic and Electrical Engineering, Loughborough University, Leicestershire LE11 3TU. Telephone: +44 (0) 509 222 810. Fax: +44 (0) 509 222 854. E Mail: LL.Freris@Lut.ac.UK.

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For further information & application forms, please contact:

Ms Zaheda Anwar  
MSc Course Secretary  
Department of Social Policy & Social Planning  
University of Bristol, 4 Woodland Road  
BRISTOL BS8 1TH  
Phone: 0272 309030 Ext 8532/8594/8533 Fax: 0272 308578

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3 September 1994  
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Director, SUSSP 1994,  
Department of Applied Physics and  
Electronic & Manufacturing Engineering  
University of Dundee  
Dundee DD1 4HN, Scotland, UK  
Tel: (44) 382 344549  
Fax: (44) 382 204630

**University  
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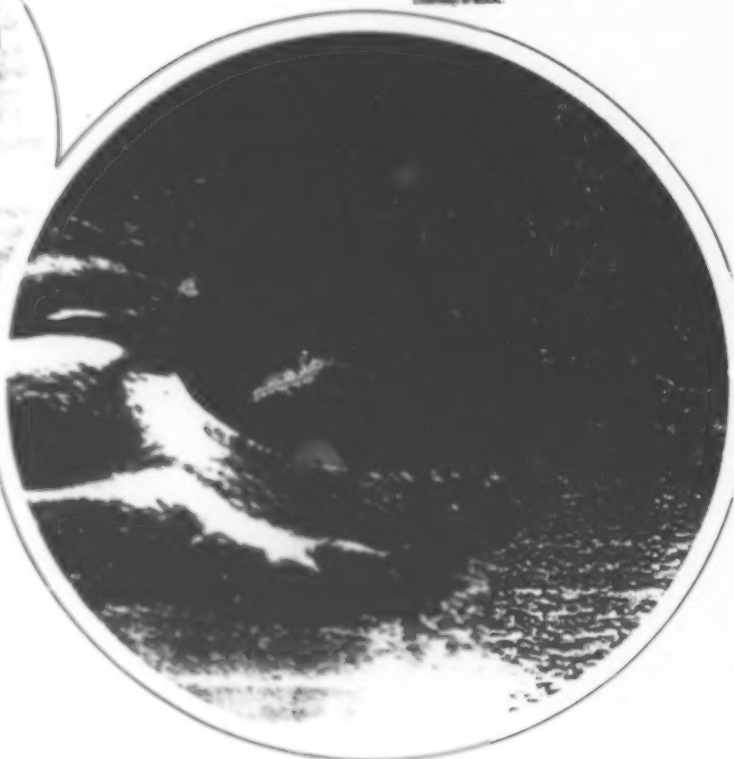


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The Scottish Universities  
Summer Schools in Physics  
programme has been in  
existence for over 30 years  
and during that time  
thousands of students and  
young scientists from all over  
the world have participated in  
these events. The lecture  
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been published. Lectures are  
given by very eminent and  
learned scientists in the  
appropriate disciplines.

This school in 1994 will  
consist of a three-week  
programme of lectures,  
seminars and discussion  
groups and is aimed at  
postgraduate students and  
young research scientists  
working in the field of Earth  
observation (remote sensing)  
and geophysics. Some  
financial support may be  
available for students in  
genuine need.

Satellite view of part of the Antarctic ice sheet  
derived from SRS-1 radar altimeter data.  
Courtesy of NASA.



The programme is planned to include the following topics:

- Overview of remote sensing systems and data availability
- Acoustic remote sensing of the atmosphere
- Meteorological systems and parameters
- Ozone concentrations from satellite-flown and ground-based observations
- Aerosols and trace gases in the atmosphere
- Thermal infrared data and sea surface temperatures
- Water quality parameters
- Synthetic aperture radar and sea surface states
- Scatterometry and the study of the air-sea interface
- Radar altimetry over land and sea
- Land surface cover
- Land surface temperatures
- Study of polar regions

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Royal Town Planning Institute recognised

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### MSc/Diploma

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Informal enquiries, further details and application forms from:



UNIVERSITY OF WALES

Department of City and Regional Planning  
University of Wales College of Cardiff,  
PO Box 906, Cardiff, CF1 3YN, United Kingdom  
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With special options in:

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The programmes begin in October each year. The MSc runs for 12 months, the Postgraduate Diploma for 9 months.

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A four week course, 20 June to 15 July 1994

Further information: For further details, please contact: The Secretary, International Fisheries Institute, University of Hull, Cottingham Road, Hull HU6 7RX, United Kingdom. Telephone: 0480 466421, Fax: 0480 476129/466420, Telex: 9312134718 IIFG.



**CENTRE FOR  
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**Human Ecology  
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For details of this 'outstanding' MSc/Diploma course send large SAE to Centre for Human Ecology (R.F.N.S.), Faculty of Science and Engineering, University of Edinburgh, 15 Buccleuch Place, Edinburgh EH8 9LN

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**Next course begins September 1994**

**Diploma: 9 months full time/21 months part time**

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*For details contact:*

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**Oxford Brookes University  
Headington, Oxford OX3 0BP, UK  
Fax: +44 865 483298**

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**MSc Degree**

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The course comprises a 60% taught element and 40% research, and 90% of our graduates are working in the water industry or closely related fields.

Few grants will be available, so most students will have to establish their own financial backing.

For details and application forms contact:

**The Information Office, Napier University, Freepost,  
Edinburgh EH14 0PA Tel: 031-444 2266, ext. 4330.**

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- MSc Recreational Fisheries Management • MSc Fisheries Management

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Further details, including possible sources of scholarship funding, may be obtained from:

**The Admissions Tutor, CEMARE, University of Portsmouth,  
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**Telephone: (0705) 844096 Facsimile: (0705) 844037  
International code: (+44 705)**

(39403)



**University of  
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Our unique course addresses the entire breadth of these environmental concerns and their implications for both the public and private sectors. Graduates of our course benefit from:

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For information and application forms, please contact Lucia Birch, Student Admissions Officer, Cranfield Biotechnology Centre, Cranfield University, Cranfield, Beds. Tel: 0234 754339. Fax: 0234 750907.

# UNIVERSITY OF NOTTINGHAM

Department of Agriculture and Horticulture

## MAFF Advanced Course Studentship MSc in Agronomy

The MSc in Agronomy is a three semester (eighteen-month) modular course commencing in October 1994. The course comprises lectures, practical classes, tutorials and seminars on a range of agronomic and related subjects. In addition, all students must complete a substantial research project on a subject related to the agronomy or management of temperate or tropical species.

Applicants who possess, or expect to gain, at least an upper second class honours degree in an agricultural, biological or physical discipline are invited to apply.

Further particulars are available from Mrs M. A. Necker, Department of Agriculture and Horticulture, University of Nottingham, Sutton Bonington Campus, Loughborough, Leics LE12 5RD or telephone (0602) 516199.



SAC

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SAC in association with University of Aberdeen

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Further details from:

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Land Resources Department  
SAC

Doig Scott Building  
Crabtree  
Aberdeen AB2 9TQ

Tel: (0224) 713423



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For further information on the courses please contact the Secretary, Department of Crystallography, Birkbeck College, Malet Street, London WC1E 7HX. Telephone: 071-431 0440

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Writtle  
College

## MSc in Crop Production in the Changing Environment

The environment in which crops are grown throughout the world is recognised to be altering rapidly. This one year programme by course and project work evaluates the issues associated with climatic and other aspects of global change in relation to crop production. Solutions from crop change and the application of molecular techniques in producing new cultivars to soil and water engineering are examined. Emphasis is placed on both temperate and tropical agriculture.

**COURSE STRUCTURE:** 2 Core courses: Crops and the changing environment; Principles of crop production. + 2 Optional courses from: Atmospheric pollution; Environmental plant physiology; Water pollution biology; Computer modelling of crop production; Soil microbiology; Soil and water engineering. + A 4-month Research project.

A limited number of Scholarships are available for UK and EC nationals.

Application forms are available from: The Secretary,  
Department of Biology, University of Essex, Colchester, Essex  
CO4 3SQ, U.K.  
Fax No. within UK 0206-873416 and outside UK +44-206-873416



IMPERIAL COLLEGE  
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Environmental Engineering, Hydrology for Environmental Management  
Soil Mechanics, Soil Mechanics & Engineering Geology  
Soil Mechanics & Environmental Geotechnics Structural Steel Design, Transport

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The Department has been awarded top UK grade for University Research in 1986, 1988, 1992

Research can be undertaken within a comprehensive range of topics in association with our internationally recognised research groups.

Further details may be obtained from Mrs Louise Green, Admissions Officer,  
Department of Civil Engineering, Imperial College, London SW7 2BX  
Tel: 071 225 8417 Fax: 071 823 9525

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Excellence in Toxicology

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For further information about this and other full- and part-time taught courses, please contact Dr R. S. Jones, School of Biological Sciences, University of Surrey GU2 5XH, UK. Telephone 0483 251705.

UNIVERSITY OF NOTTINGHAM

## MSc Plant Genetic Manipulation

This new taught modular course of twelve months duration, commencing October 1994, is designed to provide students with specialist knowledge of the theory and practical skills of plant genetic manipulation relevant to plant biotechnology. Staff from the Departments of Life Sciences, Physiology and Environmental Science and from Rothamsted Experimental Station will be responsible for the course. Some practical project assignments will be located at the Sutton Bonington Campus of the University and at Rothamsted Experimental Station.

Further details and application form for admission can be obtained by contacting Kathryn Lyon, Department of Life Science, University of Nottingham, Nottingham NG7 2RD. Tel: 0602 513229. Fax: 0602 513251.



UNIVERSITY OF  
BRADFORD

DEVELOPMENT  
AND PROJECT  
PLANNING  
CENTRE



For further details of these courses, contact  
Postgraduate Programme Secretary  
Development & Project Planning Centre  
University of Bradford BRADFORD  
West Yorkshire England BD7 1DP  
Tel: +44 274-385272/383979  
Fax: +44 274-385260

## PROFESSIONAL DEVELOPMENT AND TRAINING PROGRAMME COURSES

1995

|                                                                             |                    |
|-----------------------------------------------------------------------------|--------------------|
| Projects and Management Development                                         | 9 Jan. - 31 March  |
| Agriculture Project Preparation and Analysis                                | 9 Jan. - 17 March  |
| Economic Policy Management                                                  | 9 Jan. - 17 Feb    |
| Privatisation and Private Sector Development                                | 20 Feb. - 31 March |
| Women into Senior Management                                                | 30 Jan. - 7 April  |
| Transport                                                                   | 24 April - 14 July |
| Managing Sustainable Projects and Programmes                                | 24 April - 14 July |
| Environmental Impact Assessment and Project Appraisal                       | 24 April - 26 May  |
| The Planning of Projects for Biodiversity Conservation                      | 5 June - 14 July   |
| Community Management of Development Projects - Water, Sanitation and Health | 7 May - 14 July    |

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*Twelve month course, starting October*

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OF SALFORD

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FOR MORE DETAILS WRITE TO:  
COURSE TUTOR, ENVIRONMENTAL RESOURCES UNIT,  
UNIVERSITY OF SALFORD, SALFORD M5 4WT

## UNIVERSITY OF EDINBURGH ECOLOGY AND RESOURCE MANAGEMENT

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A 12 month programme of course work and  
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appropriate disciplines seeking career development.

The 1994/95 course commences 3rd October 1994

Course brochure and application forms are available  
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University of Edinburgh, West Mains Road,  
EDINBURGH EH9 3JG.

Telephone: 031 667 1041

FAX: 031 667 2601

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University  
Of Dundee



PRESS-STOP

## UNIVERSITY OF DAR ES SALAAM

### M.Sc. Course in Water Resources Engineering for the academic year of 1994/95

*The course is organised by*

The Department of Civil Engineering,  
University of Dar es Salaam, Tanzania,

*in collaboration with*

The Department of Engineering Hydrology,  
University College Galway, Republic of Ireland.

**Time and Place:** The course shall start on the 1st October, 1994 in the Faculty of Engineering which is situated in the main campus of the University of Dar es Salaam. The University is located about 15 Kms West of the city Centre on a hill overlooking the Indian Ocean and most of the city centre.

**Entry Requirements:** Candidates with at least a lower second class honours degree in Civil Engineering or equivalent shall be considered for admission. Candidates with work experience in water related disciplines will be given preference. Good working knowledge of the English language is essential.

**Programme:** The programme consists of two parts; the course work and the project work. The course work is spread over four terms of ten weeks duration each, with a short vacation of two to three weeks in between the terms, making it a total of twelve months. The project work is allocated six months but can only begin following successful completion of the course work. During this period students will be required to pursue independent research on an approved subject and to write a dissertation on the work. During the last month, students shall submit their dissertations for examination by internal and external examiners.

**Attendance:** Students are required to be fully engaged in the academic work for 19 months, the full duration of the programme.



**Curriculum:** The subjects that are currently being taught are as follows

*Mathematical Analysis*  
*Hydraulic Computation*  
*Hydrological Processes*  
*Water Resources Management*  
*Ground Water Investigations*  
*Computation*  
*Hydrometry*  
*Well Technology*

*Statistics*  
*Open Channel Hydraulics*  
*Hydrologic Frequency*  
*Ground Water Hydraulics*  
*Numerical Analysis*  
*Fluid Mechanics*  
*Analytical Hydrology*  
*Special Topics*

The curriculum of the programme is under review at present. It is expected that courses on Drinking Water and Waste Water Treatment and Hydraulic Structures will be included in the revised curriculum. Currently these courses are being taught under special topics. From time to time special courses on Hydropower, Soil and Water Conservation, Water Quality Modelling, Irrigation and Drainage may be offered depending on the availability of the staff.

**Fees:** For foreigners the fees payable to the University for the full duration of the course is 5675 dollars. The corresponding figure for Tanzanian nationals is 458600 Shillings. (Please note that these figures can change without notice)

Candidates must also make allowances for accomodation, food and living expenses.

**Fellowships:** In the past a number of fellowships were available from UNESCO through ANSTI and the Government of the Republic of Ireland. ANSTI fellowships are no longer available but a limited number of Irish Government fellowships are still available. Applicants who wish to be considered for these fellowships must mention in the covering letter accompanying the application form.

In the past sufficient number of fellowships were available. ANSTI or Irish Government Fellowship covers University fees, economy class return air fare from the capital city of the country of residence of the candidate to Dar es Salaam, accomodation and meals allowance currently at the rate of 2400 dollars per year, monthly allowance of 48,000 Shillings per month, book allowance of 40 dollars per month for the first twelve months and upto a maximum of 1000 dollars for research and dissertation depending upon the requirements of the research project. Settling in allowance and medical insurance is also covered by the fellowship. Currently 1 US dollar is equivalent to 480 Tanzanian Schillings.

**Contact address and Application procedure:** For any enquiries or detailed information on any aspect of the course, please contact

M.Sc. Course Coordinator (water section)  
 Department of Civil Engineering  
 University of Dar es Salaam  
 P O Box 35131  
 Dar es Salaam  
 Tanzania.

Telephone: + 255 51 43501 extn 2870/2871.  
 Telex: 41561 Univip TZ or 41854 Unieng Tz or 41222 IRI  
 Cable: UNIVENG DSM  
 Fax: + 255 51 43029/43380/46757

ENVIRONMENTAL TRAINING

*Given below are suggestions for possible sources of financial aid for those students/cadres wishing to pursue environmental studies abroad.*

**STUDY ABROAD:** (27th Edition) published by UNESCO; lists and describes scholarships for studies in all fields to be taken abroad, in over 115 countries at university level;

**OVERSEAS STUDENTS:** For grants and fees. Published by L. Beale & A. Parker, Runnymede Trust, 37A Gray's Inn Road, London, WCI UK.;

**SCHOLARSHIP GUIDE:** For Commonwealth post-graduate students (biennial). Open to graduates of Commonwealth Universities who wish to undertake post-graduate study or research at a Commonwealth university outside their own country;

**THE GRANTS REGISTER:** (biennial). Published by MacMillan. Intended for students at or above graduate level and those requiring further professional or advanced vocational training;

**FELLOWSHIPS GUIDE FOR WESTERN EUROPE:** Published by the Council for European Studies, Columbia University, New York, NY 10027, USA;

**BOURSES ET SUBVENTIONS:** A publication in French by the University Press of Louvain, Belgium;

**GRANTS AND FELLOWSHIPS IN INTERNATIONAL STUDIES:** Edited by A. Hardy, published by the International Studies Association of the University of Pittsburg, PA 15260, USA;

**GRANTS FOR GRADUATE STUDIES ABROAD:** Published by the Institute of International Education, New York, NY 10017, USA;

**CISP INTERNATIONAL STUDIES FUNDING BOOK:** Published by the Council on Intercultural Studies and Programs, New York, NY 10017, USA;

**AWARDS FOR COMMONWEALTH UNIVERSITY ACADEMIC STAFF:** 1990 - 1992, London, Association of Commonwealth Universities, London, UK.;

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**ALTRUSA INTERNATIONAL FOUNDATION:** Grants given to graduate women from Africa and other regions of the world in need of emergency funds to complete their graduate work. Contact: Chairperson, Grants-in-Aid Committee, Altrusa International Foundation, 8 S. Michigan Av., Chicago, IL 60603, U S A;

**THE FORD FOUNDATION:** The Foundation is concerned with agricultural development, welfare of the poor, and natural resource management in the Third World. A few grants are made to individuals. Contact: The Ford Foundation, 320 East 43rd Street, New York, NY 10017, U S A;

**FULBRIGHT-HAYS PROGRAM:** (Awards for non-United States Citizens). This programme is open to foreign nationals to study one year in the U.S. at the graduate level. It may also be awarded to individuals at a U.S. university who intend to conduct post-doctoral research and post-doctoral lectureships at a U.S. university. (These awards vary from three months to one year). Fulbrights are also awarded to students participating in individually arranged programmes or group projects offering specialised study and opportunities to obtain practical professional experience (for 30-60 days). Students must write directly to the Binational Educational Committee of the United States embassy or consulate in the individual's home country;

**INSTITUTE FOR THE STUDY OF WORLD POLITICS:** Fellowships offered to Ph.D. Students doing research in these areas: international issues, human rights, resources and environmental problems. Awards are geared to social scientists and last for three to nine months. Contact: Institute for the Study of World Politics, 823 United Nations Plaza, New York, N.Y. 10017, U S A;

**INTERNATIONAL FEDERATION OF UNIVERSITY WOMEN:** Several fellowships are offered to women who have completed at least one year of graduate work and are studying in a country other than their own. Awards last for two to three months; these are geared to helping the recipient complete a special training program or do research: International Federation of Women, 37 Quai Wilson, CH-1201 Geneva, Switzerland;

**P.E.O. INTERNATIONAL PEACE SCHOLARSHIPS FUND:** Scholarships are awarded to women from other countries for graduate study in the United States. Maximum award of US\$3000. Contact: Emily Macey, Chairwoman, P.E.O International; Peace Scholarship, 3700 Grand Av., Des Moines, IA 50312, U S A;

**SOCIAL SCIENCE RESEARCH COUNCIL:** Limited support to doctoral students doing their dissertation research in social sciences or humanities in Africa. Students must be enrolled at a U.S. university. Awards last a maximum of 24 months. Contact: Social Science Research Council Fellowships and Grants, 605 Third Av., New York, NY 10158, U S A;

**EISENHOWER EXCHANGE FELLOWSHIPS INC.:** Fellowships awarded to nationals of any country between the ages of 30 and 50, who have already established themselves in their profession. Awards cover travel and maintenance expenses for 2-4 months. Fellows engage in training and observation which will benefit their country upon their return. Contact: Eisenhower Exchange Fellowships Inc., 226 S. 16th St., Philadelphia, PA 19102, U S A

(Note: Information about this fellowship can be obtained from U.S. Embassy in applicant's country).

#### European Community (EC)

Applicants from EC countries should apply through their own government education authorities. Those from ACP countries may apply to Centre Technique de Cooperation Agricole et Rurale (CTA) Postbus 380, 6700 AJ Wageningen, Netherlands which disburses grants for training personnel from ACP countries.

#### The British Council

British Council Offices are found in the capital city of most countries.

#### Commonwealth Secretariat

The Commonwealth Secretariat provides some financial assistance for training for candidates from developing countries within the Commonwealth through the Commonwealth Fund for Technical Cooperation (CFTC). For this course candidates seeking CFTC funding should apply directly to the Training Coordinator at CAB International, Wallingford, OX10 8DE, Oxon, UK. It must be emphasized, however, that the funding available is very limited.

#### United States Agency for International Development (USAID)

USAID may offer financial support for training courses in the UK if the training offered is not available elsewhere. Candidates should apply to the Training Officer, USAID office in their own country.

#### The Rockefeller Foundation

Applicants should apply to the Rockefeller Foundation office in their own country. The Foundation will support staff from universities or research institutes within its areas of interest.

Candidates should discuss with their heads of departments or employers their intention to participate in a particular training course and explore the possibilities of obtaining local funds. Those requiring external grants should apply very early since funding agencies may require up to a year to process grant applications. Candidates should apply to the agency offices or representatives in their own country, if such offices exist, if not to the headquarters of the agency or to the Cultural Attaché of the Embassy supporting the agency.

In all cases emphasis should be made of the suitability of the course to the applicants requirements, and supported by letters of endorsement from the appropriate authorities.



## FELLOWSHIPS OFFERED BY INTERNATIONAL ORGANIZATIONS

In recent years many international organizations offered fellowships through member states to enable cadres to attend training courses abroad. These include:

- Asian Development Bank
- European Communities (non EDF)
- Food and Agriculture Organization (FAO)
- International Atomic Energy Agency (IAEA)
- International Civil Aviation Organization (ICAO)
- International Labour Organization (ILO)
- International Maritime Organization (IMO)
- International Telecommunication Union (ITU)
- Organization for Economic Cooperation and Development (OECD)
- United Nations Centre for Human Settlements (UNCHS)
- United Nations Development Programme (UNDP)
- United Nations Educational, Scientific and Cultural Organization (UNESCO)
- United Nations Environment Programme (UNEP)
- United Nations Industrial Development Organization (UNIDO)
- World Bank (WB)
- World Health Organization (WHO)
- World Meteorological Organization (WMO)
- World University Service (WUS)

For further information on their requirements, apply to the organization's representative in your country or to the appropriate Ministry of your Government.

### Research grants

The International Foundation for Science (IFS) and the Swedish International Development Authority (SIDA) are co-sponsoring a special Programme that will support young scientists from developing countries who are carrying out research projects in forestry and agroforestry in dry areas.

This collaboration will enable IFS to provide an extra number of research grants in addition to its normal Programme.

The objective of the programme is that the supported projects will contribute to a better knowledge of: regeneration and management of natural vegetation; plantations of forest tree species; ecological characteristics of natural and man-made ecosystems; and, less destructive logging methods.

Besides supporting research in forestry and agroforestry, IFS also considers applications for research projects in aquatic resources, animal production, crop science, food science and natural products.

Applications are welcomed and are reviewed on a year-round basis. They are evaluated by an international

group of senior scientists who are specialists in their respective scientific areas.

Further information and application forms with guidelines (in English or French) are available from the International Foundation for Science, Grev Turegatan 19, S-114 38 Stockholm, Sweden

IFS GRANTEES 1974 - 1993

| Research Areas        | Africa | Asia & Pacific | Latin Am & Carib | Total |
|-----------------------|--------|----------------|------------------|-------|
| Aquatic Resources     | 56     | 141            | 91               | 288   |
| Animal Production     | 184    | 101            | 155              | 440   |
| Crop Science          | 217    | 156            | 74               | 447   |
| Forestry/Agroforestry | 71     | 62             | 46               | 179   |
| Food Science          | 68     | 93             | 55               | 216   |
| Natural Products      | 119    | 126            | 100              | 345   |
| (Rural Technology)    | 39     | 25             | 19               | 83    |
| Total                 | 754    | 704            | 540              | 1998  |



*If you are thinking a year ahead, sow seed.  
If you are thinking ten years ahead, plant a tree.  
If you are thinking one hundred years ahead, educate the people.*

*By sowing seed, you will harvest once.  
By planting a tree, you will harvest tenfold.  
By educating the people, you will harvest one hundredfold*

Anonymous Chinese poet, 400 B.C.

**THOSE  
WHO CARE,  
TEACH!**

**ET Worldwide:**

Compiled, from publicly available information, by the  
Environmental Education & Training Unit (Michael Atchia  
and Ulf Carlsson),

United Nations Environment Programme, P.O. Box 30552,  
Nairobi, Kenya (Room U-315), Tel. (2542) 623469, Fax  
(2542) 226890.

whom you may contact for further information/discussion  
on environmental training courses.

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costs, application procedures etc. of any given course,  
please write directly to the university or training  
institution concerned.